



SERVICE MANUAL **2216**



marantz

model 2216

Stereophonic Receiver

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1. INTRODUCTION

This service manual was prepared for use by Authorized Warranty Stations and contains service information for Marantz Model 2216 Stereophonic Receiver.

Servicing information and voltage data included in this manual are intended for use by the knowledgeable and experienced technician only. All instructions should be read carefully. No attempt

should be made to proceed without a good understanding of the operation of the receiver.

The parts list furnishes information by which replacement parts may be ordered from the Marantz Company. A simple description is included for parts which can usually be obtained through local suppliers.

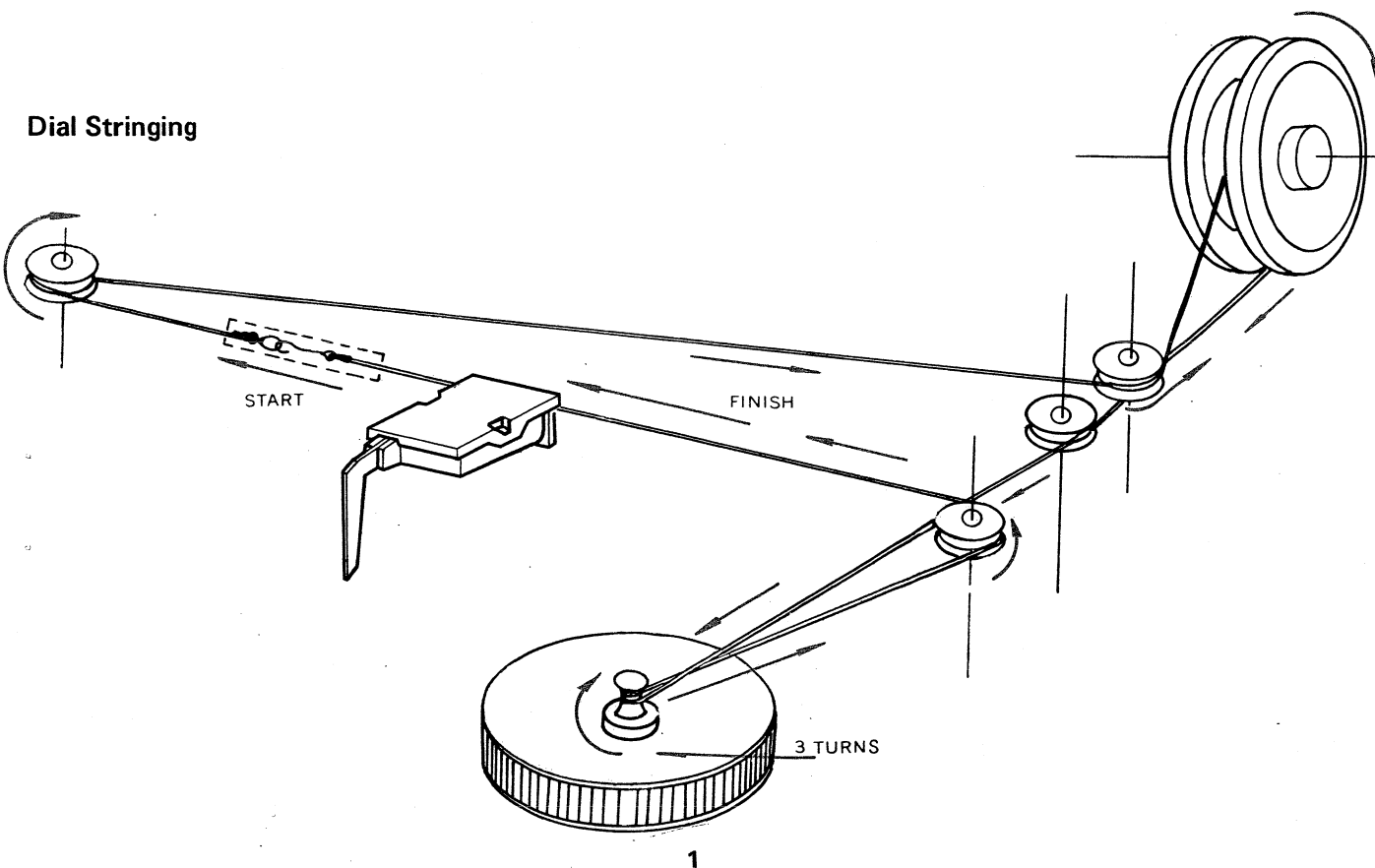
2. SERVICE NOTES

As can be seen from the circuit diagram, the chassis of Model 2216 consists of the following units. Each unit mounted on a printed circuit

board is described within the square enclosed by a bold dotted line on the circuit diagram.

1. FM/AM Tuner	mounted on P.W. Board P100
2. Phono Amplifier	mounted on P.W. Board P400
3. Power Amplifier	mounted on P.W. Board P700
4. Power Supply	mounted on P.W. Board P800
5. Dial Lamp	mounted on P.W. Board PZ01
6. Monitor, Switch	mounted on P.W. Board PT01
7. Muting, Switch	mounted on P.W. Board PH01
8. Tone Amplifier	mounted on P.W. Board PE01

Dial Stringing



3. TEST EQUIPMENT REQUIRED FOR SERVICING

Table 1 lists the test equipment required for servicing the Model 2216 Receiver.

Item	Manufacturer and Model No.	Use
AM Signal Generator		Signal source for AM alignment
Test Loop		Use with AM Signal Generator
FM Signal Generator	Sound Technology Model 1000A	Signal source for FM alignment
MPX Signal Generator		Stereo separation alignment and trouble shooting
Distortion Analyzer	Sound Technology Model 1700A	Distortion measurements
Audio Oscillator		Sinewave and squarewave signal source
AC VTVM	Tektronix Model T932 Philips Model 3232	Voltage measurements (AC)
Oscilloscope		Waveform analysis and trouble shooting and ASO alignment
Frequency Counter	Fluke Model 1900A	MPX Oscillator adjustment (VCO)
Circuit Tester		Trouble shooting
DC VTVM	Fluke Model 8000 "Digital" Simpson Model 313, Triplet Model 801	Voltage measurements (DC)
AC Wattmeter		Monitors primary power to amplifier
AC Ammeter	Simpson Model 1379	Monitors amplifier output under short circuit condition
Line Voltmeter		Monitors potential of primary power to amplifier
Variable Autotransformer	Superior Electronic Co., Powerstat Model 116B-10A	Adjusts level of primary power to amplifier
Shorting Plug		Shorts amplifier input to eliminate noise pickup
Output Load (8 ohms, 0.5%, 100W)	Commercial Grade	Provides 8-ohm load for amplifier output termination
Output Load (4 ohms, 0.5%, 100W)		Provides 4-ohm load for amplifier output termination

4. AM ALIGNMENT PROCEDURE

4.1 AM IF ALIGNMENT

1. Connect a sweep generator to the test point A or J105 and an alignment scope to J112.
2. Rotate each core of IF transformer L203 and L204 for maximum height and flat top symmetrical response.

4.2 AM FREQUENCY RANGE AND TRACKING ALIGNMENT

1. Set AM signal generator to 525 kHz. Turn the tuning capacitor fully closed (place the tuning pointer at the low end) and adjust the oscillator coil L202 for maximum audio output.

2. Set the signal generator to 1650 kHz. Place the tuning pointer in the high frequency end and adjust the oscillator trimmer on the oscillator tuning capacitor (CA-2) for maximum audio output.
3. Repeat steps 1 and 2 until no further adjustment is necessary.
4. Set the generator 600 kHz and tune the receiver to the same frequency and adjust a slug core of AM ferrite antenna for maximum output.
5. Set the generator to 1400 kHz and tune the receiver to the same frequency and adjust the trimming capacitors of Antenna (CA-1) for maximum output.
6. Repeat steps 4 and 5 until no further adjustment is necessary.

NOTE: During tracking alignment reduce the signal generator output as necessary to avoid AGC action.

5. FM ALIGNMENT PROCEDURE

1. Connect an FM signal generator to the FM antenna terminals and an oscilloscope and an audio distortion analyzer to the tape output jacks on the rear panel.
2. Set the FM SG to 87.5 MHz and provide about 3 to 5 μV . Place the tuning pointer at the low frequency end by rotating the tuning knob and adjust the core of oscillator coil L103 to obtain maximum audio output.
3. Set the FM SG to 108.5 MHz and provide about 3 to 5 μV output. Rotate the tuning knob and place the tuning pointer at the high frequency end and adjust the trimming capacitor CF-3 for maximum output.
4. Repeat steps 2 and 3 until no further adjustment is necessary.
5. Set the FM SG to 90 MHz and tune the receiver to the same frequency. Decrease signal generator output until the audio output level decreases with the decreasing generator output. Adjust the antenna coil L101, RF coil L102 and IF transformer L105 for minimum audio distortion.
6. Set the FM SG to 106 MHz and tune the receiver to the same frequency. Adjust the

trimming capacitor CF-1, CF-2 for minimum distortion.

7. Repeat steps 5 and 6 until no further adjustment is necessary.
8. Connect a DC VTVM with ± 0.5 volt range selected to the test point E (J116) and adjust the secondary core (upper) of discriminator transformer L106 so that no voltage reading is obtained on the VTVM at no signal. Next set the FM SG to 98 MHz and increase the output level to 1 $\text{k}\mu\text{V}$, then tune the receiver to the same frequency so that no deflection is obtained. Adjust primary core (bottom) of L106 for minimum distortion, and adjust the L107 for the maximum reading on the VTVM connected to the J114.

6. STEREO SEPARATION ALIGNMENT

1. Set the FM SG to provide 1 $\text{k}\mu\text{V}$ at 98 MHz. Tune the receiver to the same frequency perfectly.
2. Turn the FM SG modulation off (with the pilot signal turned off), connect a frequency counter to test point J120, and adjust R302 so that the frequency counter may precisely read 19 kHz.
3. Modulate the FM SG with stereo composite signal consisting of only subchannel signal (of course a pilot signal must be included).
4. Adjust the trimming resistor R301 for maximum and same separation in both channels.

7. MUTING CIRCUIT ALIGNMENT

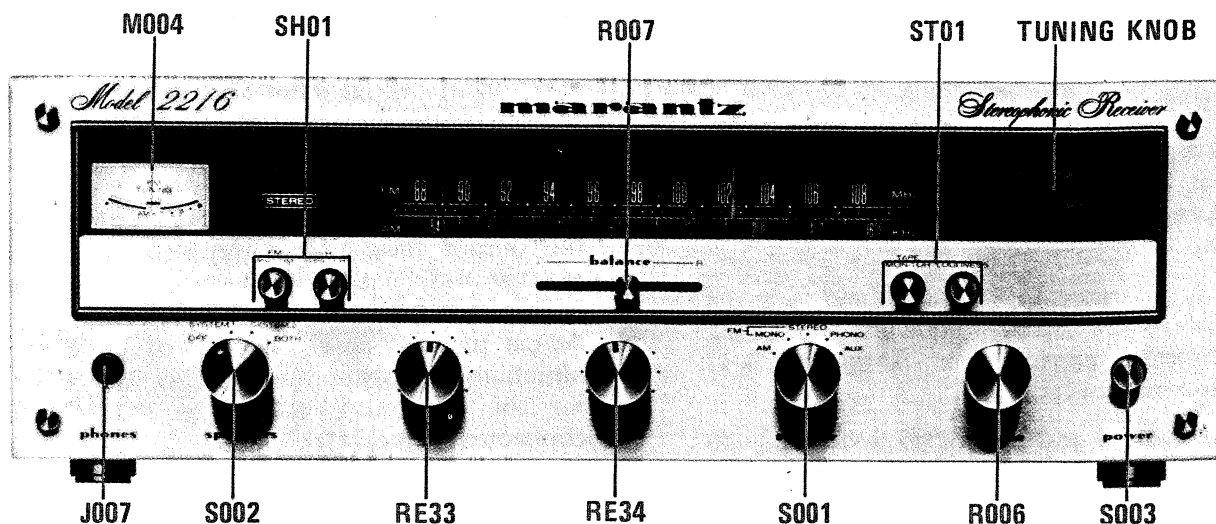
Set the FM SG output to provide 25 μV (IHF) at 98 MHz and tune the receiver to the same frequency. Adjust the trimming resistor R161 for the threshold level of 25 μV (during this adjustment turn the MUTING pushswitch "on").

8. AUDIO ADJUSTMENT

Connect a VTVM across the resistor R735 and adjust the trimming resistor R727 until the VTVM reads 4.5 mV DC. For the other channel connect the VTVM across the R736 and adjust the R728 for the same reading.

9. MAJOR COMPONENT LOCATIONS

9.1 Front Panel Adjustment and Component Locations



9.2 Main Chassis Component Locations (Top View)

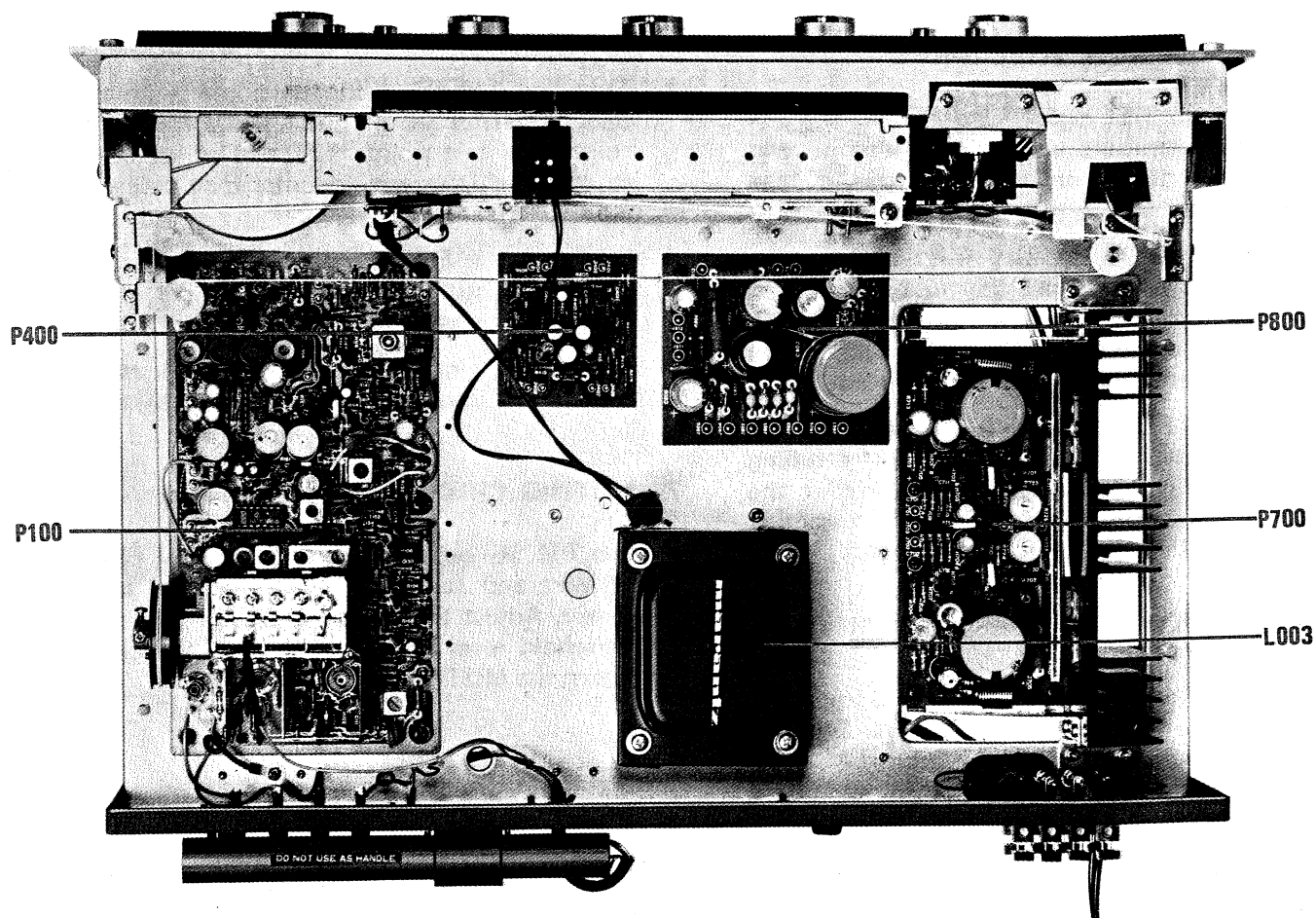
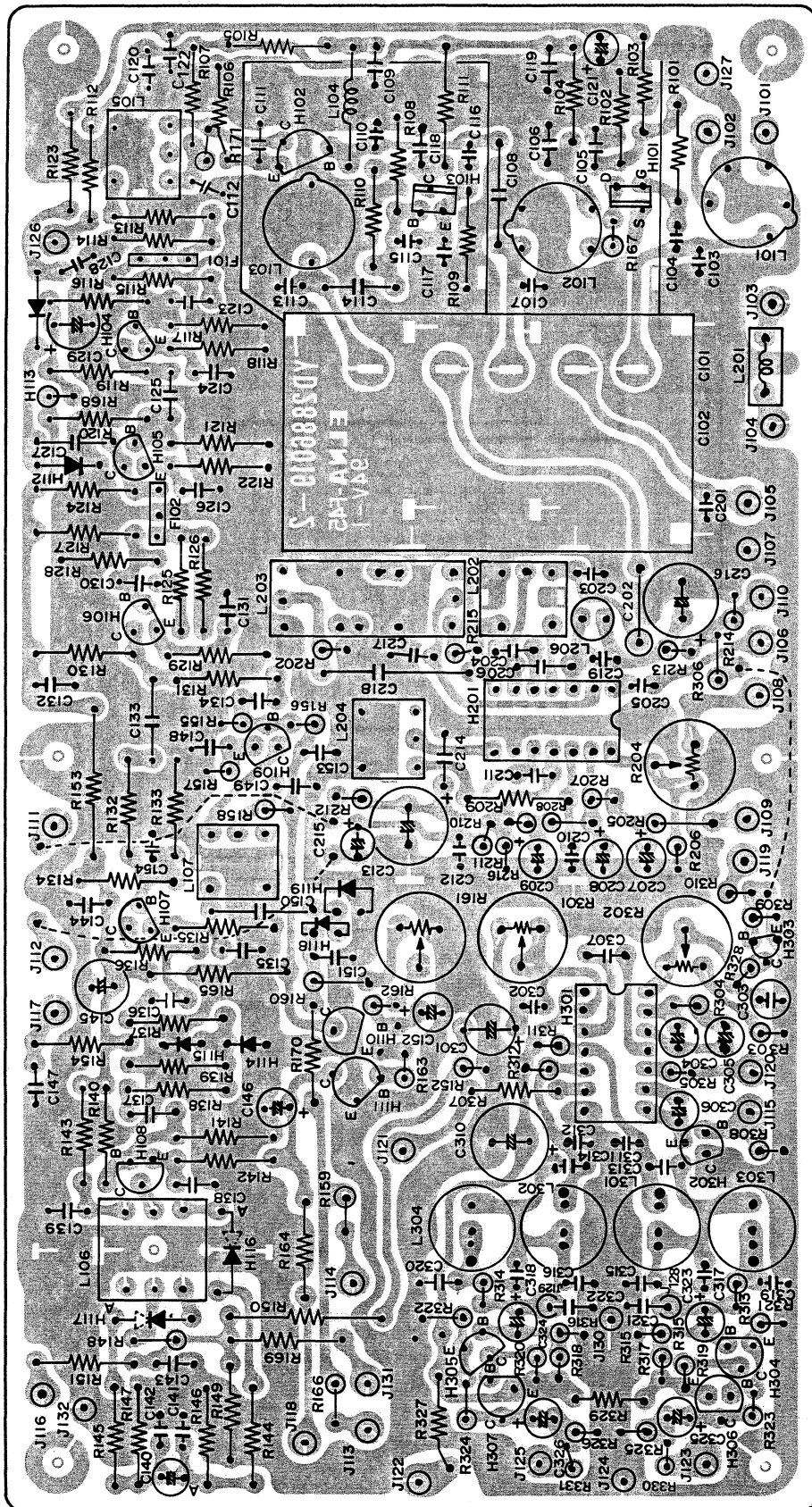


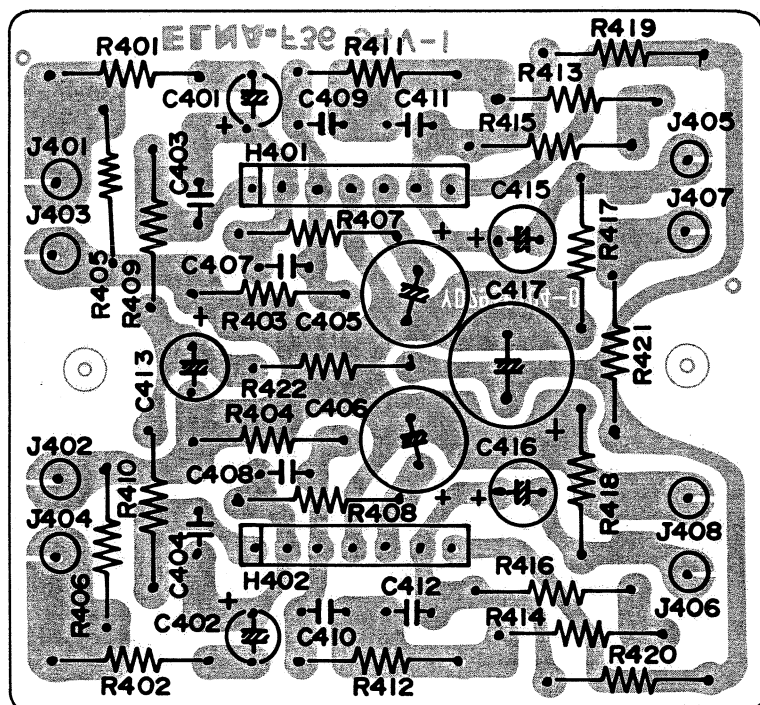
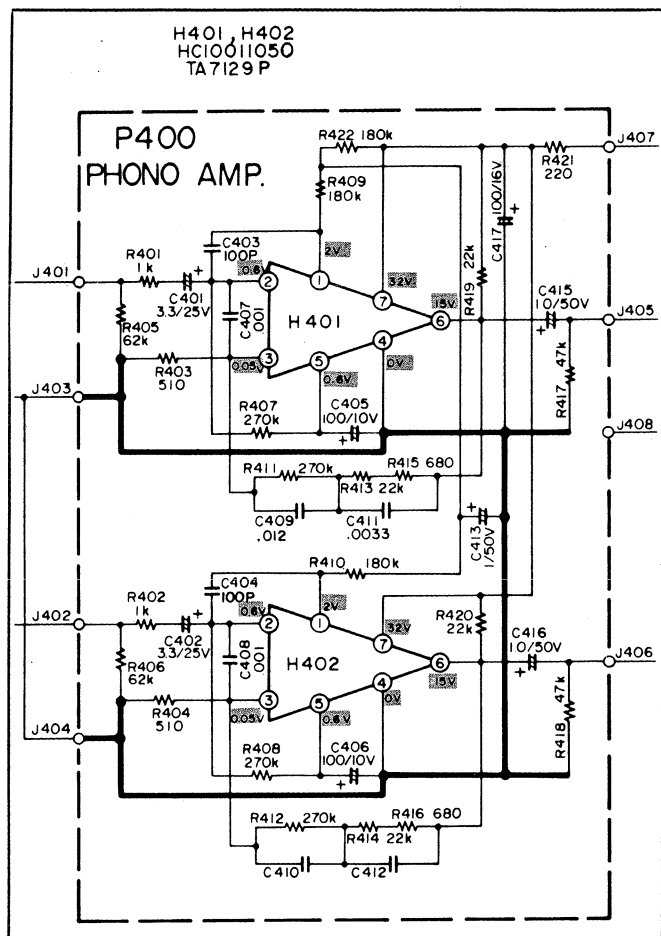
Diagram illustrating the rear panel of a car stereo unit, showing various components and their corresponding labels:

- J001**: ANTENNA
- L002**: Speaker grille
- J008**: SPEAKER SYSTEMS (SYSTEM 1)
- J009**: SPEAKER SYSTEMS (SYSTEM 2)
- J006**: CHASSIS GROUND
- J004**: PHONO AUX
- J005**: TAPE MONITOR IN/OUT
- J003**: FM QUADRIAL OUTPUT
- J012**: CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 2 AMP, 250V FUSE. DISCONNECT SUPPLY CORD BEFORE CHANGING FUSE.
- J011**: AC OUTLET 120V 50/60Hz UNSWITCHED 200W MAX TOTAL
- W001**: Bottom right corner

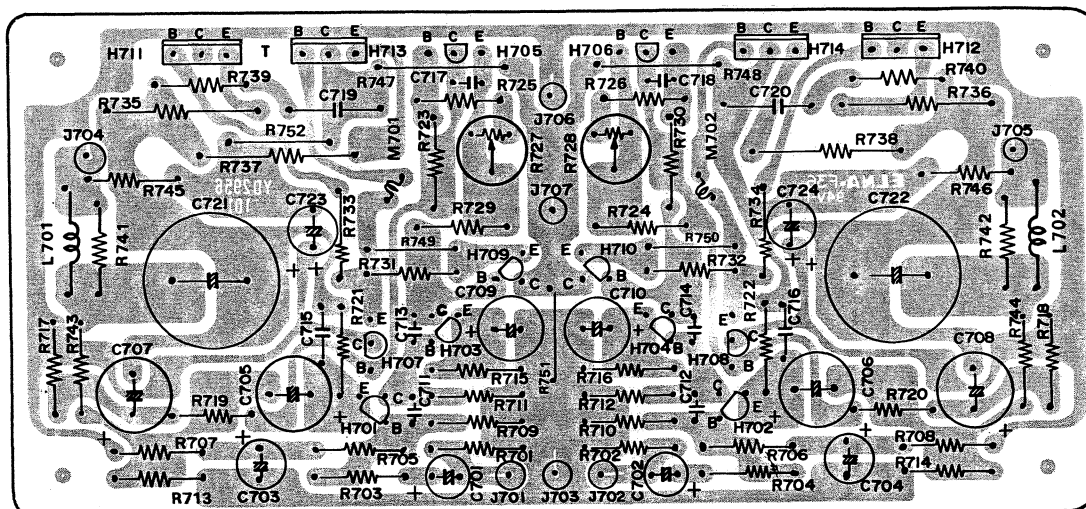
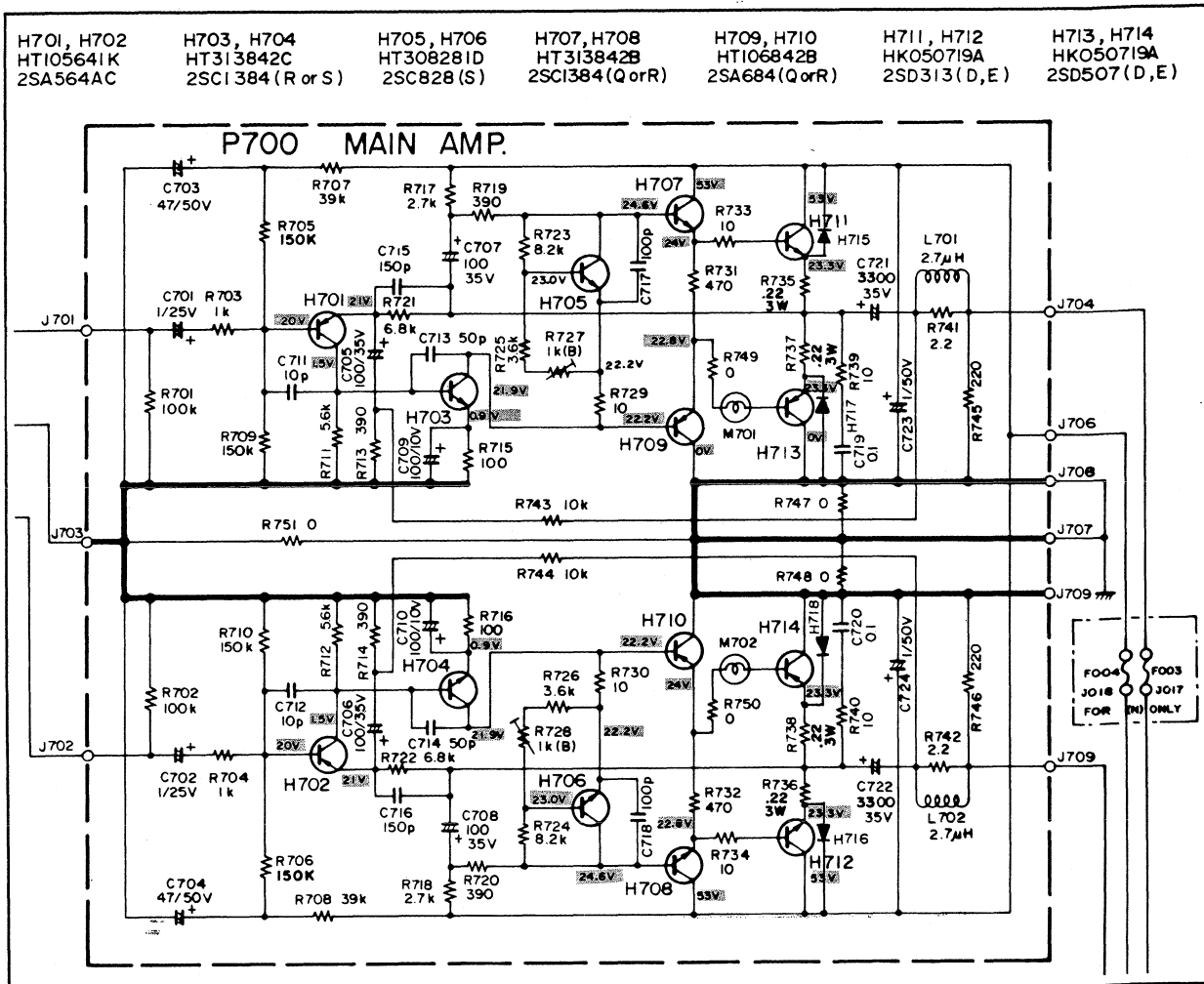




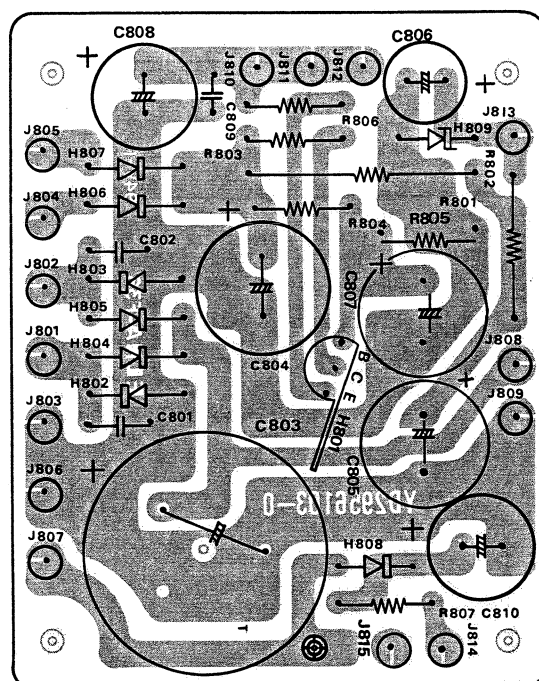
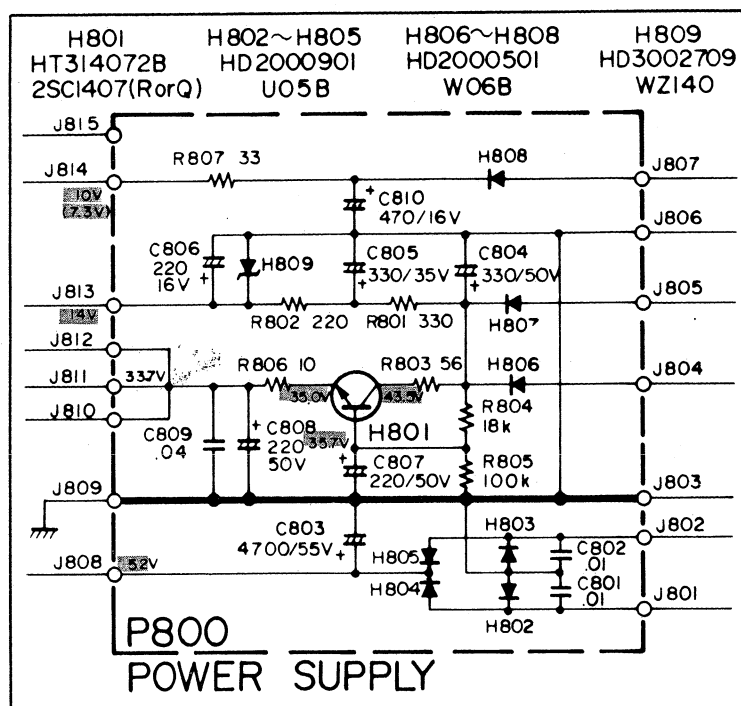
10.2 EQ Amplifier (P400) Schematic Diagram and Component Locations



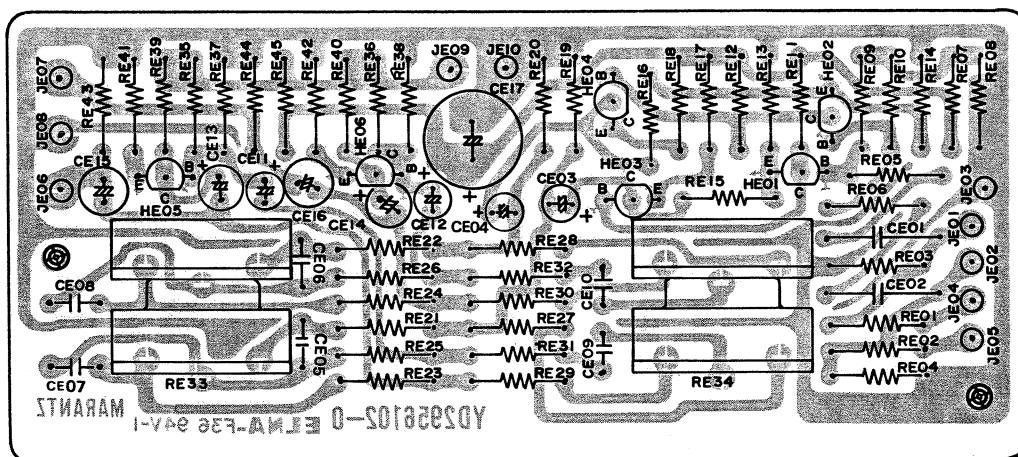
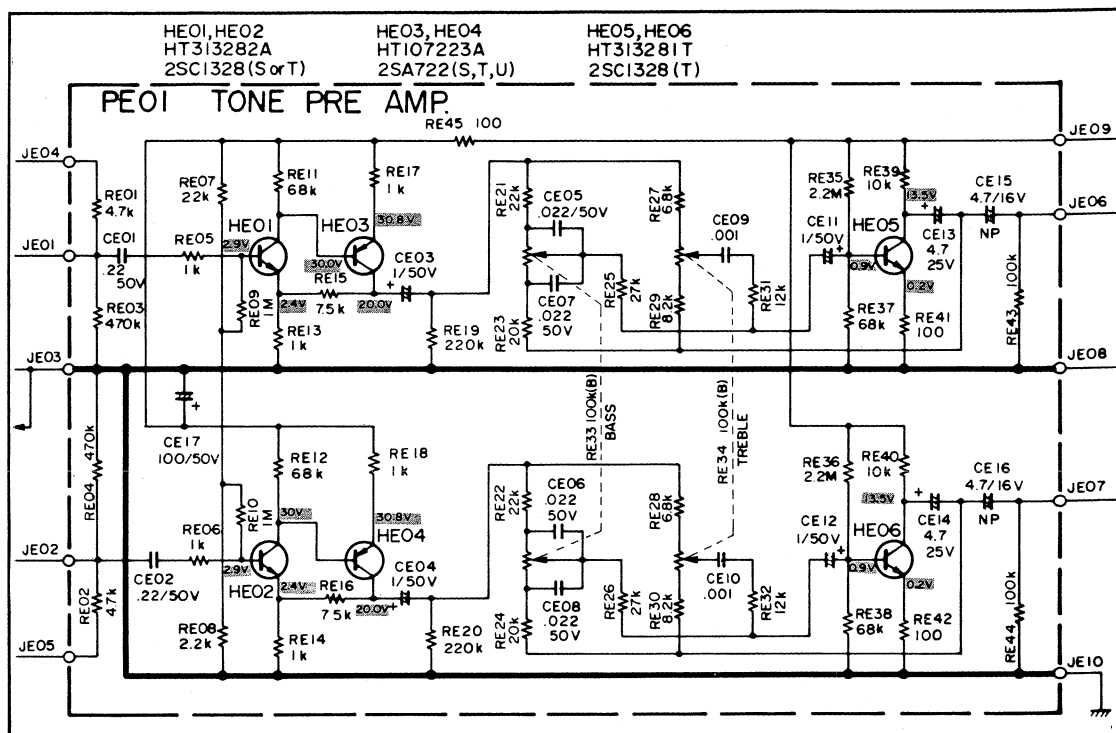
10.3 Main Amplifier (P700) Schematic Diagram and Component Locations



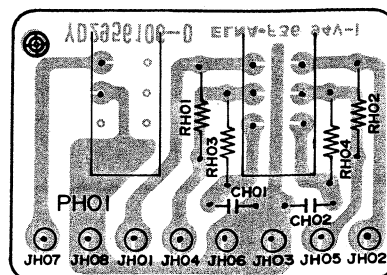
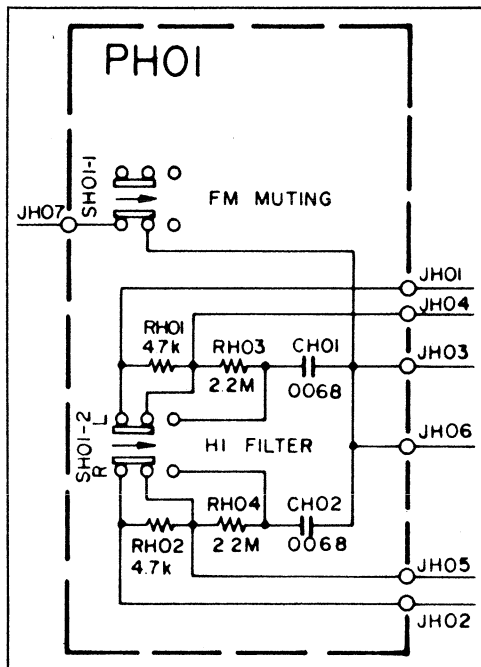
10.4 Power Supply Assembly (P800) Schematic Diagram and Component Locations



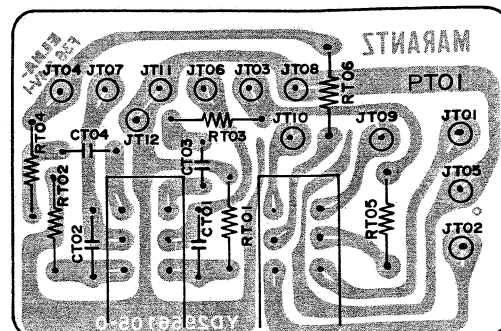
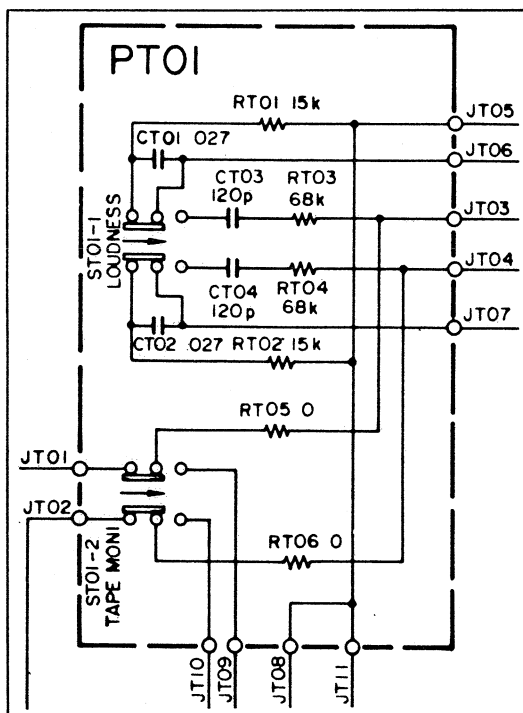
10.5 Tone Amplifier (PE01) Schematic Diagram and Component Locations



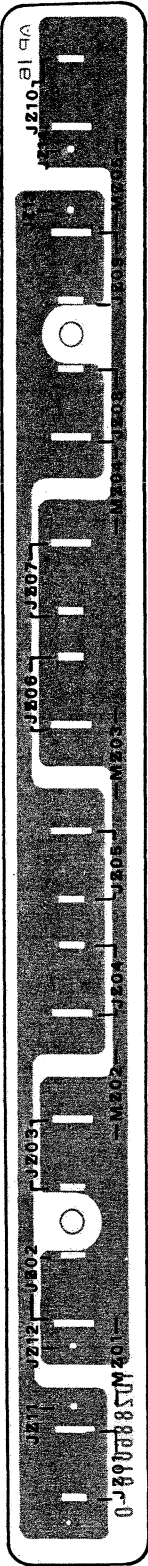
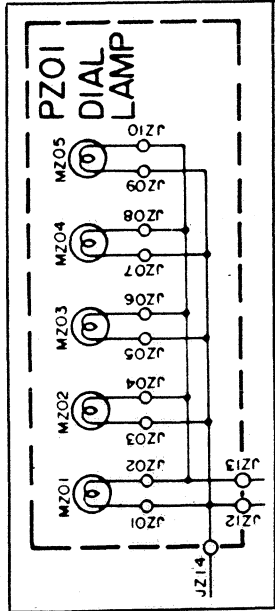
10.6 Muting and Hi Filter Assembly (PH01) Schematic Diagram and Component Locations



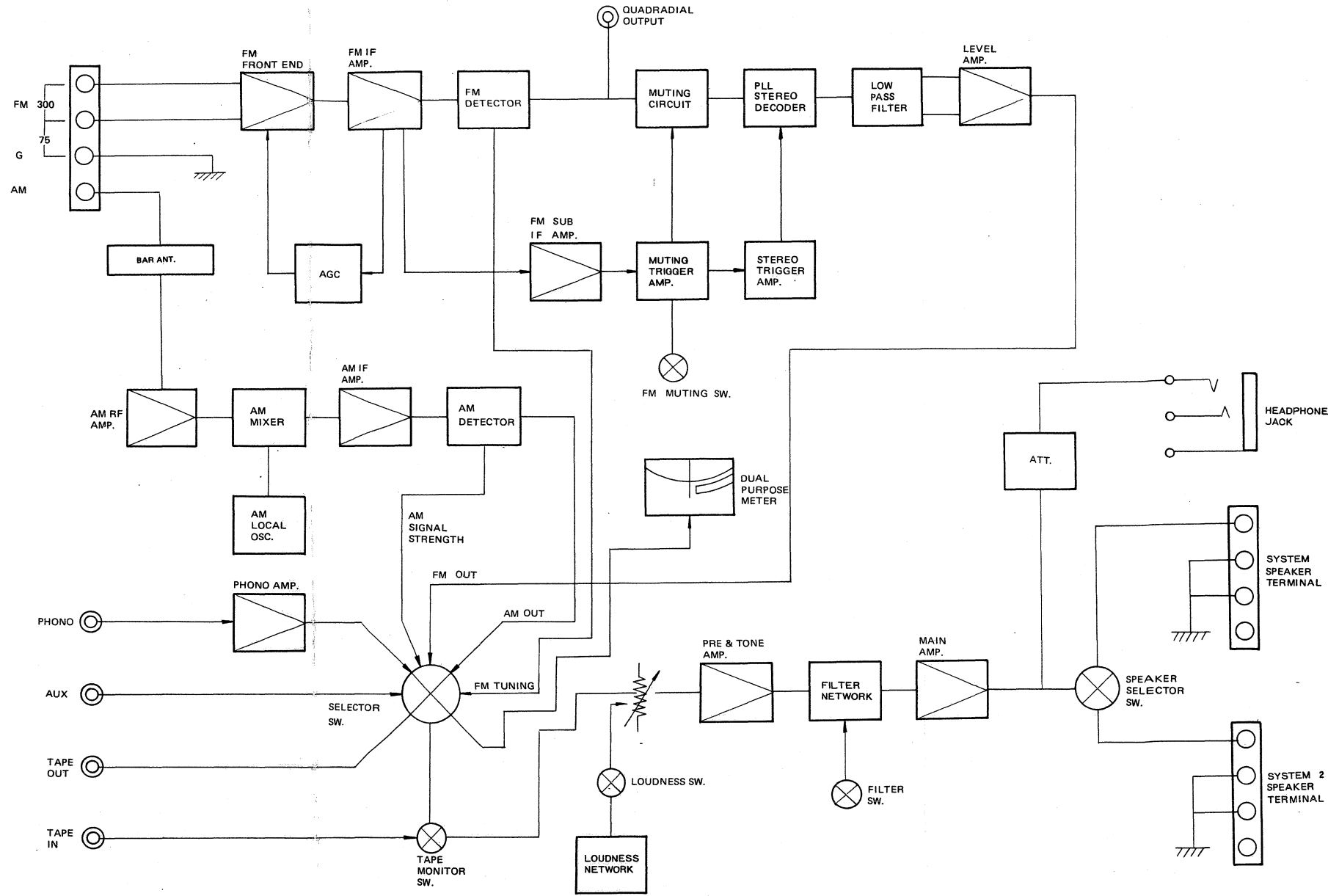
10.7 Loudness and Monitor Assembly (PT01) Schematic Diagram and Component Locations



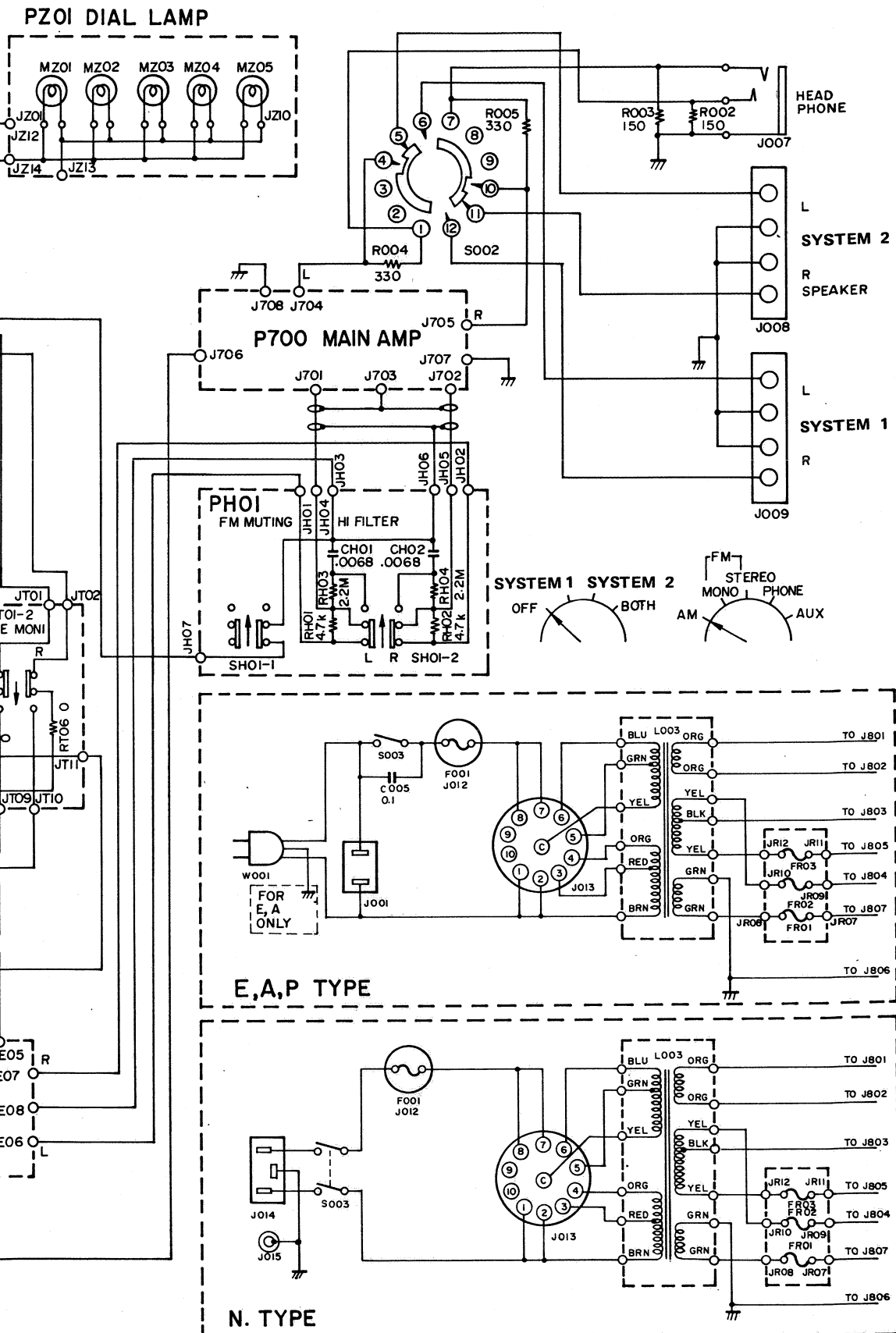
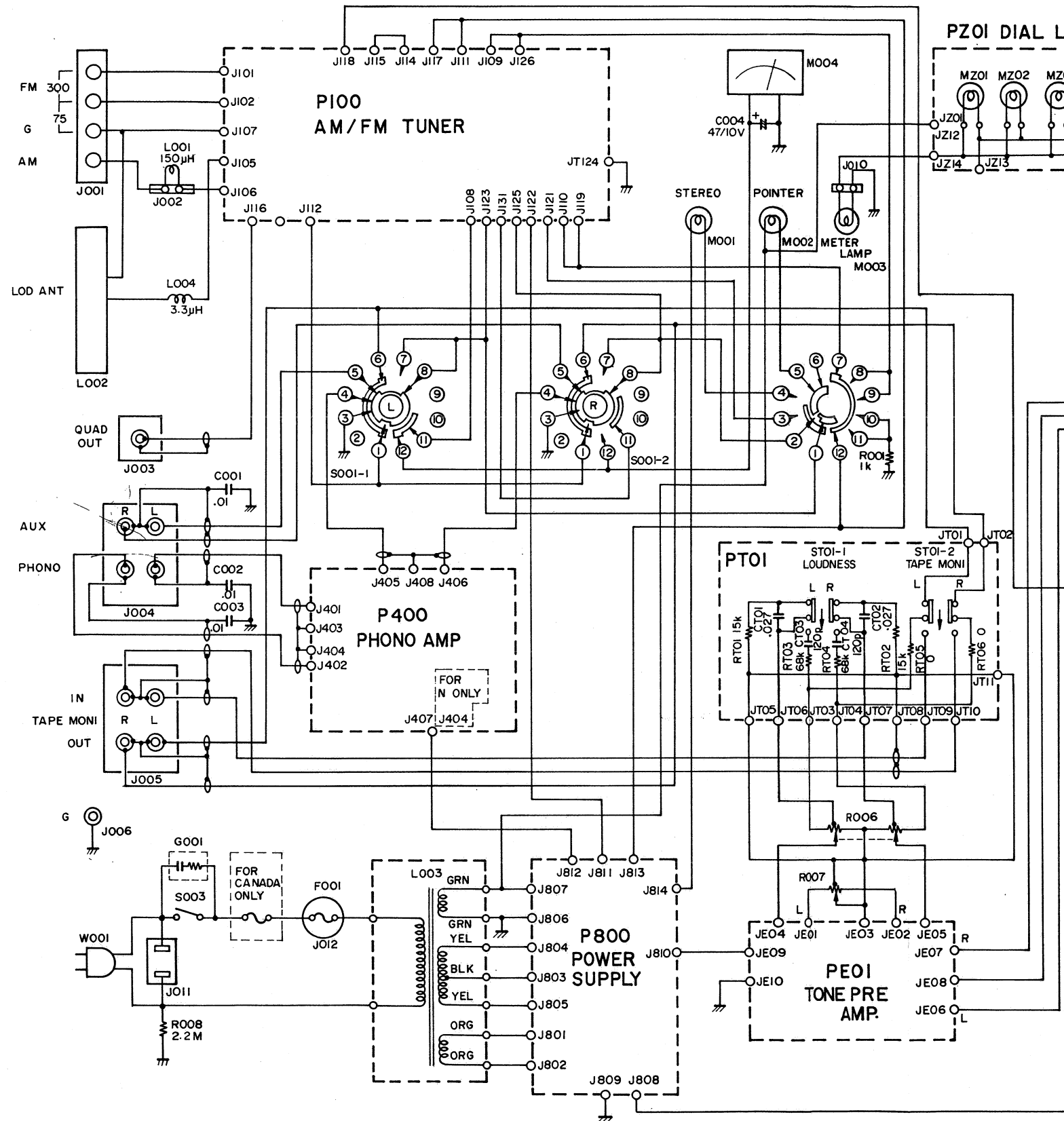
10.8 Dial Lamp Assembly (PZ01) Schematic Diagram and Component Locations



11. BLOCK DIAGRAM

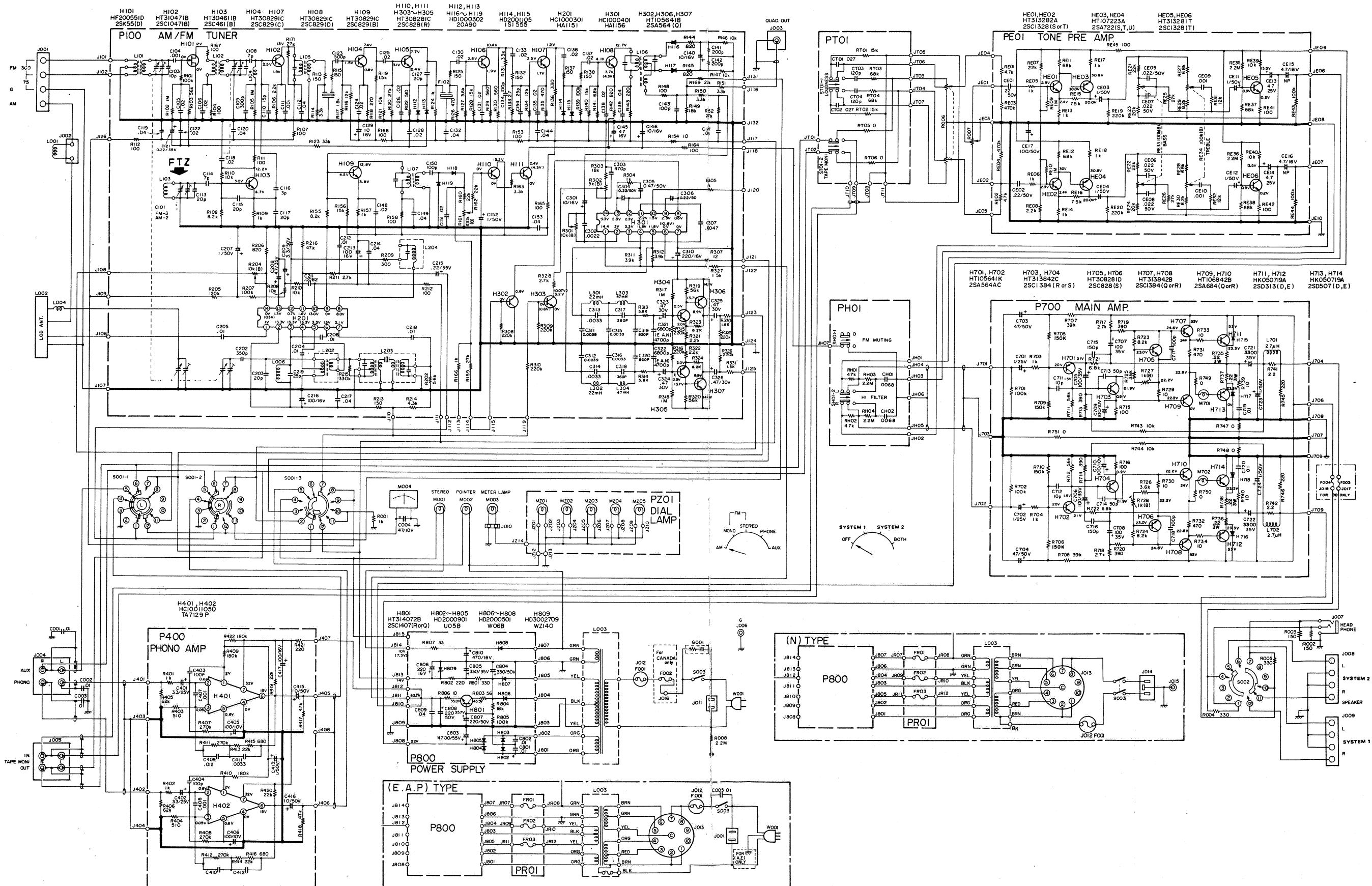


12. CONNECTION DIAGRAM

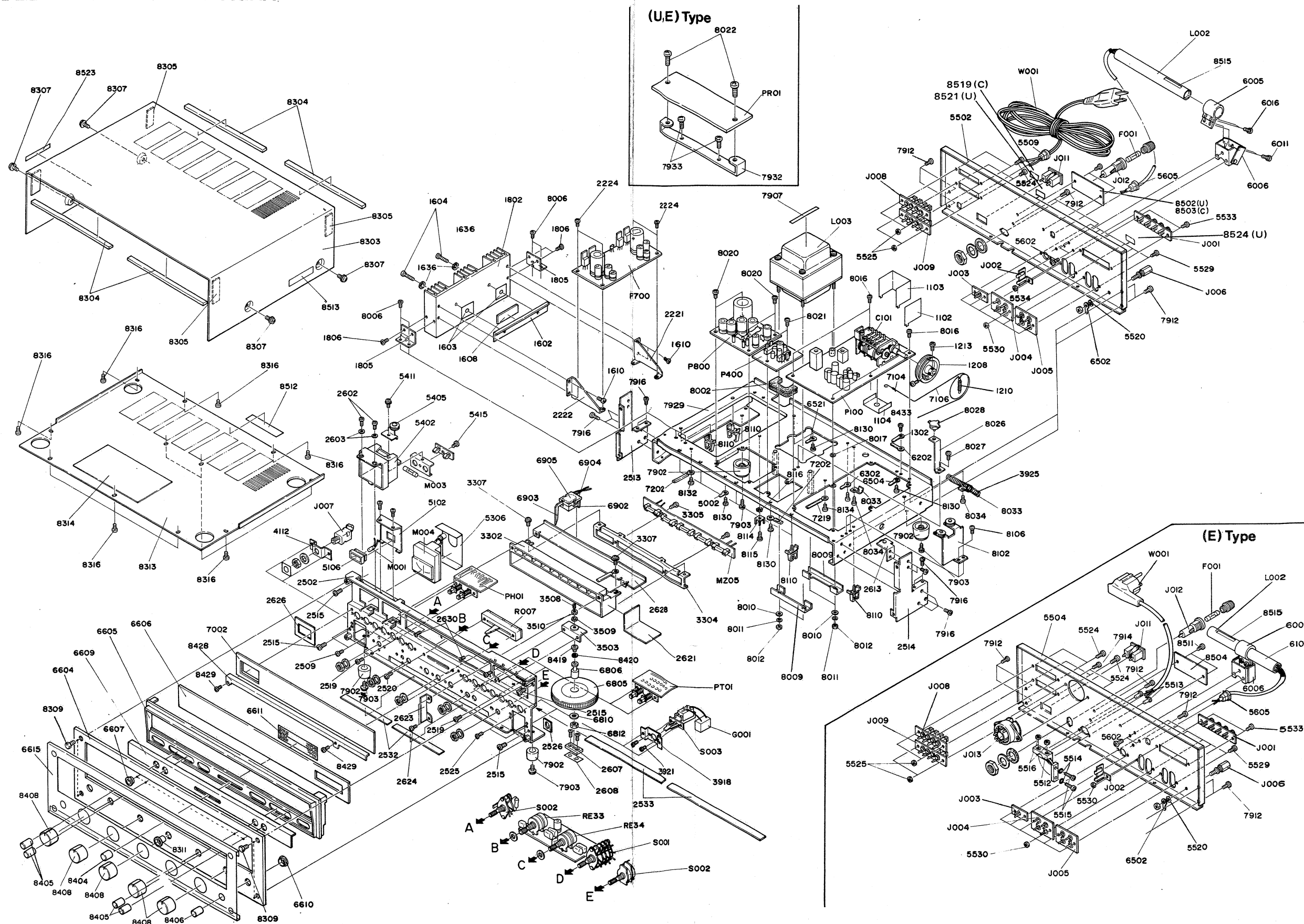


13. SCHEMATIC DIAGRAM

Model 2216



14. EXPLODED MECHANICAL DIAGRAM



U: For U.S.A.
C: For Canada
E: For Europe

15. PARTS LIST

REF. DESIG.	Q'TY U C E	PART NO.	DESCRIPTION	REF. DESIG.	Q'TY U C E	PART NO.	DESCRIPTION
A	1 1 1	2221063400	Front Panel Assembly	P108	8 8 8	2933118020	Spacer
6604	1 1 1	2221063013	Escutcheon	P107	2 2 2	3444118050	Spacer
6605	1 1 1	2221401012	Frame	R101	1 1 1	RT05104140	Resistor, 100kΩ ±5% ¼W
6606	1 1 1	2221158010	Window	R102	1 1 1	RT05105140	Resistor, 1MΩ ±5% ¼W
6607	4 4 4	2221259012	Bushing	R103	1 1 1	RT05563140	Resistor, 56kΩ ±5% ¼W
6609	1 1 1	2221063020	Escutcheon	R104	1 1 1	RT05101140	Resistor, 100Ω ±5% ¼W
6610	1 1 1	2818259050	Bushing	R105	1 1 1	RT05105140	Resistor, 1MΩ ±5% ¼W
6611	1 1 1	2915107010	Sheet	R106	1 1 1	RT05222140	Resistor, 2.2kΩ ±5% ¼W
6615	1 1 1	2915053010	Cover	R107	1 1 1	RT05101140	Resistor, 100Ω ±5% ¼W
B	1 1 1	2853273400	Flywheel Assembly	R108	1 1 1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
6804	2 2 2	2577063022	Escutcheon	R109	1 1 1	RT05102140	Resistor, 1kΩ ±5% ¼W
6805	1 1 1	2577273010	Flywheel	R110	1 1 1	RT05103140	Resistor, 10kΩ ±5% ¼W
6806	1 1 1	2853112010	Shaft	R111	1 1 1	RT05101140	Resistor, 100Ω ±5% ¼W
6810	1 1 1	53110603E9	Hexagon Nut	R112	1 1 1	RT05101140	Resistor, 100Ω ±5% ¼W
6812	1 1 1	54020601E0	Flat Washer	R113	1 1 1	RT05151140	Resistor, 150Ω ±5% ¼W
C	1 1 1	2915103400	Pointer Assembly	R114	1 1 1	RT05332140	Resistor, 3.3kΩ ±5% ¼W
6902	1 1 1	2915103012	Pointer	R115	1 1 1	RT05151140	Resistor, 150Ω ±5% ¼W
6903	1 1 1	2818103020	Pointer	R116	1 1 1	RT05123140	Resistor, 12kΩ ±5% ¼W
6904	1 1 1	2915103020	Cover	R117	1 1 1	RT05182140	Resistor, 1.8kΩ ±5% ¼W
6905	1 1 1	2915267030	Heatsink	R118	1 1 1	RT05271140	Resistor, 270Ω ±5% ¼W
M002	1 1 1	IN10080300	Lamp	R119	1 1 1	RT05152140	Resistor, 1.5kΩ ±5% ¼W
D	1 1 1	1202006430	Hook Assembly	R120	1 1 1	RT05273140	Resistor, 27kΩ ±5% ¼W
7104	1 1 1	1202258010	Hook	R121	1 1 1	RT05103140	Resistor, 10kΩ ±5% ¼W
7106	1 1 1	72071605A0	String	R122	1 1 1	RT05511140	Resistor, 510Ω ±5% ¼W
E	1 1 1	2819159410	Drum Assembly	R123	1 1 1	RT05333140	Resistor, 33kΩ ±5% ¼W
1208	1 1 1	2819159012	Drum	R124	1 1 1	RT05102140	Resistor, 1kΩ ±5% ¼W
1210	1 1 1	71101569M0	Spring	R125	1 1 1	RT05151140	Resistor, 150Ω ±5% ¼W
1213	2 2 2	51064019A9	Set Screw	R126	1 1 1	RT05471140	Resistor, 470Ω ±5% ¼W
F	1 1 1	2221160400	Rear Panel Assembly	R127	1 1 1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
5504	1 1 1	2221160220	Bracket	R128	1 1 1	RT05152140	Resistor, 1.5kΩ ±5% ¼W
5512	1 1 1	2821259010	Bushing	R129	1 1 1	RT05561140	Resistor, 560Ω ±5% ¼W
5513	2 2 2	55060305S0	T.R. Rivet	R130	1 1 1	RT05561140	Resistor, 560Ω ±5% ¼W
5514	2 2 2	54050300R0	T.L. Washer	R131	1 1 1	RT05152140	Resistor, 1.5kΩ ±5% ¼W
G	1 1 1	2956257420	Lid Assembly, Upper	R132	1 1 1	RT05151140	Resistor, 150Ω ±5% ¼W
8303	1 1 1	2956257010	Lid	R133	1 1 1	RT05272140	Resistor, 2.7kΩ ±5% ¼W
8304	4 4 4	2577118070	Spacer	R134	1 1 1	RT05123140	Resistor, 12kΩ ±5% ¼W
H	1 1 1	2956257410	Lid Assembly, Lower	R135	1 1 1	RT05471140	Resistor, 470Ω ±5% ¼W
8313	1 1 1	2956257020	Lid	R136	1 1 1	RT05331140	Resistor, 330Ω ±5% ¼W
8314	1 1 1	2888120010	Insulator	R137	1 1 1	RT05151140	Resistor, 150Ω ±5% ¼W
P100	1 1 1	YD28860192	P.W. Board	R138	1 1 1	RT05151140	Resistor, 150Ω ±5% ¼W
	1 1 1	ZZ22211192	P.W. Board Assembly	R139	1 1 1	RT05104140	Resistor, 100kΩ ±5% ¼W
	1 1 1	ZZ22218192	P.W. Board Assembly	R140	1 1 1	RT05153140	Resistor, 15kΩ ±5% ¼W
				R141	1 1 1	RT05682140	Resistor, 6.8kΩ ±5% ¼W
				R142	1 1 1	RT05821140	Resistor, 820Ω ±5% ¼W
				R143	1 1 1	RT05221140	Resistor, 220Ω ±5% ¼W
				R144	1 1 1	RT05821140	Resistor, 820Ω ±5% ¼W
				R145	1 1 1	RT05821140	Resistor, 820Ω ±5% ¼W
				R146	1 1 1	RT05103140	Resistor, 10kΩ ±5% ¼W
				R147	1 1 1	RT05103140	Resistor, 10kΩ ±5% ¼W
				R148	1 1 1	RT05101140	Resistor, 100Ω ±5% ¼W
				R149	1 1 1	RT05183140	Resistor, 18kΩ ±5% ¼W
				R150	1 1 1	RT05332140	Resistor, 3.3kΩ ±5% ¼W
				R151	1 1 1	RT05332140	Resistor, 3.3kΩ ±5% ¼W
				R152	1 1 1	RT05273140	Resistor, 27kΩ ±5% ¼W
				R153	1 1 1	RT05101140	Resistor, 100Ω ±5% ¼W
				R154	1 1 1	RT05100140	Resistor, 10Ω ±5% ¼W
				R155	1 1 1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
				R156	1 1 1	RT05153140	Resistor, 15kΩ ±5% ¼W

REF. DESIG.	QTY			PART NO.	DESCRIPTION
	U	C	E		
R157	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
R158	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R159	1	1	1	RT05273140	Resistor, 27k Ω \pm 5% $\frac{1}{4}$ W
R160	1	1	1	RT05223140	Resistor, 22k Ω \pm 5% $\frac{1}{4}$ W
R161	1	1	1	RA01040180	Trimming Resistor, 100k Ω (B)
R162	1	1	1	RT05223140	Resistor, 22k Ω \pm 5% $\frac{1}{4}$ W
R163	1	1	1	RT05332140	Resistor, 3.3k Ω \pm 5% $\frac{1}{4}$ W
R164	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R165	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R166	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
R167	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R168	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R169	1	1	1	RT05223140	Resistor, 22k Ω \pm 5% $\frac{1}{4}$ W
R170	1	1	1	RC00000120	Resistor, 0 Ω
R171	1	1	1	RT05273140	Resistor, 27k Ω \pm 5% $\frac{1}{4}$ W
R202	1	1	1	RT05562140	Resistor, 5.6k Ω \pm 5% $\frac{1}{4}$ W
R204	1	1	1	RA01030250	Trimming Resistor, 10k Ω (B)
R205	1	1	1	RT05124140	Resistor, 120k Ω \pm 5% $\frac{1}{4}$ W
R206	1	1	1	RT05821140	Resistor, 820 Ω \pm 5% $\frac{1}{4}$ W
R207	1	1	1	RT05104140	Resistor, 100k Ω \pm 5% $\frac{1}{4}$ W
R208	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
R209	1	1	1	RT05301140	Resistor, 300 Ω \pm 5% $\frac{1}{4}$ W
R210	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
R211	1	1	1	RT05272140	Resistor, 2.7k Ω \pm 5% $\frac{1}{4}$ W
R212	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
R213	1	1	1	RT05151140	Resistor, 150 Ω \pm 5% $\frac{1}{4}$ W
R214	1	1	1	RT05432140	Resistor, 4.3k Ω \pm 5% $\frac{1}{4}$ W
R215	1	1	1	RT05334140	Resistor, 330k Ω \pm 5% $\frac{1}{4}$ W
R216	1	1	1	RT05473140	Resistor, 47k Ω \pm 5% $\frac{1}{4}$ W
R330	1	1	1	RT05152140	Resistor, 1.5k Ω \pm 5% $\frac{1}{4}$ W
R331	1	1	1	RT05152140	Resistor, 1.5k Ω \pm 5% $\frac{1}{4}$ W
R301	1	1	1	RA01030250	Trimming Resistor, 10k Ω (B)
R302	1	1	1	RA04720050	Trimming Resistor, 4.7k Ω (B)
R303	1	1	1	RT05163140	Resistor, 16k Ω \pm 5% $\frac{1}{4}$ W
R304	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
R305	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
R307	1	1	1	RT05120140	Resistor, 12 Ω \pm 5% $\frac{1}{4}$ W
R308	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R309	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R310	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R311	1	1	1	RT05392140	Resistor, 3.9k Ω \pm 5% $\frac{1}{4}$ W
R312	1	1	1	RT05392140	Resistor, 3.9k Ω \pm 5% $\frac{1}{4}$ W
R313	1	1	1	RT05562140	Resistor, 5.6k Ω \pm 5% $\frac{1}{4}$ W
R314	1	1	1	RT05562140	Resistor, 5.6k Ω \pm 5% $\frac{1}{4}$ W
R315	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R316	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R317	1	1	1	RT05105140	Resistor, 1M Ω \pm 5% $\frac{1}{4}$ W
R318	1	1	1	RT05105140	Resistor, 1M Ω \pm 5% $\frac{1}{4}$ W
R319	1	1	1	RT05563140	Resistor, 56k Ω \pm 5% $\frac{1}{4}$ W
R320	1	1	1	RT05563140	Resistor, 56k Ω \pm 5% $\frac{1}{4}$ W
R321	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
R322	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
R323	1	1	1	RT05622140	Resistor, 6.2k Ω \pm 5% $\frac{1}{4}$ W
R324	1	1	1	RT05622140	Resistor, 6.2k Ω \pm 5% $\frac{1}{4}$ W
R325	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R326	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
R327	1	1	1	RT05152140	Resistor, 1.5k Ω \pm 5% $\frac{1}{4}$ W
R328	1	1	1	RT05272140	Resistor, 2.7k Ω \pm 5% $\frac{1}{4}$ W
R329	1	1	1	RC00000120	Resistor, 0 Ω
R313	1	1	1	RT05562140	Resistor, 5.6k Ω \pm 5% $\frac{1}{4}$ W
R314	1	1	1	RT05562140	Resistor, 5.6k Ω \pm 5% $\frac{1}{4}$ W
C101	1	1	1	CA32500020	Variable Cap., FM-3 AM-2
C103	1	1	1	DD12100010	Ceramic Cap., 10pF \pm 1pF
C104	1	1	1	DK17102010	Ceramic Cap., 0.001 μ F \pm 20%
C105	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C106	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C107	1	1	1	DD12100010	Ceramic Cap., 10pF \pm 1pF
C108	1	1	1	DD12070030	Ceramic Cap., 7pF \pm 1pF
C109	1	1	1	DD15301010	Ceramic Cap., 300pF \pm 5%
C110	1	1	1	DD16150030	Ceramic Cap., 15pF \pm 10%
C111	1	1	1	DK17101010	Ceramic Cap., 0.001 μ F \pm 20%
C112	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C113	1	1	1	DD15200020	Ceramic Cap., 20pF \pm 5%
C114	1	1	1	DD12070030	Ceramic Cap., 7pF \pm 1pF
C115	1	1	1	DD15200010	Ceramic Cap., 20pF \pm 5%
C116	1	1	1	DD11030010	Ceramic Cap., 3pF \pm 0.5pF
C117	1	1	1	DD15200010	Ceramic Cap., 20pF \pm 5%
C118	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C119	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C120	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C121	1	1	1	EV22403560	Electrolytic Cap., 0.022 μ F 35V
C122	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C123	1	1	1	DD16501010	Ceramic Cap., 500pF \pm 10%
C124	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C125	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C126	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C127	1	1	1	DD16200010	Ceramic Cap., 20pF \pm 10%
C128	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C129	1	1	1	EA10601690	Electrolytic Cap., 10 μ F 16V
C130	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C131	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C132	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C133	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C134	1	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%
C135	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C136	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C137	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C138	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C139	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C140	1	1	1	EA10601690	Electrolytic Cap., 10 μ F 16V
C141	1	1	1	DD16201010	Ceramic Cap., 200pF \pm 10%
C142	1	1	1	DD16201010	Ceramic Cap., 200pF \pm 10%
C143	1	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%
C144	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C145	1	1	1	EA47601690	Electrolytic Cap., 47 μ F 16V
C146	1	1	1	EA10601690	Electrolytic Cap., 10 μ F 16V
C147	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C148	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C149	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%
C150	1	1	1	DD16101010	Ceramic Cap., 100pF \pm 10%
C151	1	1	1	DK18203020	Ceramic Cap., 0.02 μ F \pm 10%
C152	1	1	1	EA10505090	Electrolytic Cap., 1 μ F 50V
C153	1	1	1	DK18403020	Ceramic Cap., 0.04 μ F \pm 10%

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
C154	1	1	1	DD15250020	Ceramic Cap., 25pF ±5%
C202	1	1	1	DF65351010	Film Cap., 350pF ±5%
C203	1	1	1	DD15200010	Ceramic Cap., 20pF ±5%
C204	1	1	1	DF17103010	Film Cap., 0.01μF ±20%
C205	1	1	1	DF17103010	Film Cap., 0.01μF ±20%
C206	1	1	1	DF17103010	Film Cap., 0.01μF ±20%
C207	1	1	1	EA10505090	Electrolytic Cap., 1μF 50V
C208	1	1	1	EA47503510	Electrolytic Cap., 4.7μF 35V
C209	1	1	1	EA33505090	Electrolytic Cap., 3.3μF 50V
C210	1	1	1	DK17102010	Ceramic Cap., 0.001μF ±20%
C211	1	1	1	DF16822010	Film Cap., 0.0082μF ±10%
C212	1	1	1	DF17103010	Film Cap., 0.01μF ±20%
C213	1	1	1	EA10701690	Electrolytic Cap., 100μF 16V
C214	1	1	1	DK18403020	Ceramic Cap., 0.04μF ±10%
C215	1	1	1	EV22403560	Electrolytic Cap., 0.22μF 35V
C216	1	1	1	EA10701690	Electrolytic Cap., 100μF 16V
C217	1	1	1	DK18403020	Ceramic Cap., 0.04μF ±10%
C218	1	1	1	DK17103010	Ceramic Cap., 0.01μF ±20%
C219	1	1	1	DD15250020	Ceramic Cap., 25pF ±5%
C301	1	1	1	EA10601690	Electrolytic Cap., 10μF 16V
C302	1	1	1	DF16222010	Film Cap., 0.0022μF ±10%
C303	1	1	1	DF55471010	Film Cap., 470pF ±5%
C304	1	1	1	EQ22405010	Electrolytic Cap., 0.22μF 50V
C305	1	1	1	EQ47405010	Electrolytic Cap., 0.47μF 50V
C306	1	1	1	EQ22405010	Electrolytic Cap., 0.22μF 50V
C307	1	1	1	DF17473010	Film Cap., 0.047μF ±20%
C310	1	1	1	EA22701690	Electrolytic Cap., 220μF 16V
C311	1	1	1	DF16392010	Film Cap., 0.0039μF ±10%
C312	1	1	1	DF16392010	Film Cap., 0.0039μF ±10%
C313	1	1	1	DF15332010	Film Cap., 0.0033μF ±5%
C314	1	1	1	DF15332010	Film Cap., 0.0033μF ±5%
C315	1	1	1	DF16332010	Film Cap., 0.0033μF ±10%
C316	1	1	1	DF16332010	Film Cap., 0.0033μF ±10%
C317	1	1	1	DD15361010	Film Cap., 360pF ±5%
C318	1	1	1	DD15361010	Film Cap., 360pF ±5%
C319	1	1	1	DF55821010	Film Cap., 820pF ±5%
C320	1	1	1	DF55821010	Film Cap., 820pF ±5%
C321	1	1	1	DF15682010	Film Cap., 6800pF ±5%
C321	1	1	1	DF15472010	Film Cap., 4700pF ±5%
C322	1	1	1	DF15682010	Film Cap., 6800pF ±5%
C322	1	1	1	DF15462010	Film Cap., 4700pF ±5%
C323	1	1	1	EV47403560	Electrolytic Cap., 0.47μF 30V
C324	1	1	1	EV47403560	Electrolytic Cap., 0.47μF 30V
C325	1	1	1	EV47403560	Electrolytic Cap., 0.47μF 30V
C326	1	1	1	EV47403560	Electrolytic Cap., 0.47μF 30V
L101	1	1	1	LA12026120	FM Ant. Coil
L102	1	1	1	LA12026100	FM RF Coil
L103	1	1	1	LO12036010	FM Osc. Coil
L104	1	1	1	LC17510010	Choke Coil, 0.75mH
L105	1	1	1	LI10016010	FM IFT
L106	1	1	1	LI14016230	FM IFT
L107	1	1	1	LI10156020	FM IFT
L202	1	1	1	LO10010490	AM Osc. Coil
L203	1	1	1	LI10280030	AM IFT
L204	1	1	1	LI10010640	AM IFT
L206	1	1	1	LC21050010	Choke Coil, 1 mH

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
L301	1	1	1	LC22260040	Choke Coil, 22 mH
L302	1	1	1	LC22260040	Choke Coil, 22 mH
L303	1	1	1	LC24760010	Choke Coil, 47 mH
L304	1	1	1	LC24760010	Choke Coil, 47 mH
F101	1	1	1	FF11070050	Ceramic Filter, SFE 10.7 MD-1
F102	1	1	1	FF11070050	Ceramic Filter, SFE 10.7 MD-1
H101	1	1	1	HF200551D0	FET, 2SK55
H102	1	1	1	HT310471B0	Transistor, 2SC1047
H103	1	1	1	HT304611B0	Transistor, 2SC461
H104	1	1	1	HT308291C0	Transistor, 2SC829
H105	1	1	1	HT310472B0	Transistor, 2SC1047
H106	1	1	1	HT308291C0	Transistor, 2SC829
H107	1	1	1	HT308291C0	Transistor, 2SC829
H108	1	1	1	HT308291D0	Transistor, 2SC829
H109	1	1	1	HT308291B0	Transistor, 2SC829
H110	1	1	1	HT308281C0	Transistor, 2SC828
H111	1	1	1	HT308281C0	Transistor, 2SC828
H112	1	1	1	HD10003020	Diode, 20A90
H113	1	1	1	HD10003020	Diode, 20A90
H114	1	1	1	HD20011050	Diode, 1S1555
H115	1	1	1	HD20011050	Diode, 1S1555
H116	1	1	1	HD10003020	Diode, 20A90
H117	1	1	1	HD10003020	Diode, 20A90
H118	1	1	1	HD10003020	Diode, 20A90
H119	1	1	1	HD10003020	Diode, 20A90
H201	1	1	1	HC10003010	IC, HA1151
H301	1	1	1	HC10004010	IC, HA1156
H302	1	1	1	HT105641B0	Transistor, 2SA564
H303	1	1	1	HT308281C0	Transistor, 2SC828
H304	1	1	1	HT308281C0	Transistor, 2SC828
H305	1	1	1	HT308281C0	Transistor, 2SC828
H306	1	1	1	HT105641B0	Transistor, 2SA564
H307	1	1	1	HT105641B0	Transistor, 2SA564
J101	1	1	1	YP10001140	Plug
J102	1	1	1	YP10001140	Plug
J105	22	22	22	YP10001140	Plug
J126	1	1	1	YP10001140	Plug
J131	1	1	1	YP10001140	Plug
J132	1	1	1	YP10001140	Plug
1102	1	1	1	2821109010	Shield
1103	1	1	1	3896109030	Shield
1104	1	1	1	2850109020	Shield
1302	2	2	2	62030039W0	Lug
P400	1	1	1	YD29561040	P400 EQL. AMP. BOARD
	1	1	1	ZZ29561040	P.W. Board Assembly
P408	2	2	2	2933118020	Spacer
R401	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
R402	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
R403	1	1	1	RT05511140	Resistor, 510Ω ±5% ¼W
R404	1	1	1	RT05511140	Resistor, 510Ω ±5% ¼W
R405	1	1	1	RT05623140	Resistor, 62kΩ ±5% ¼W
R406	1	1	1	RT05623140	Resistor, 62kΩ ±5% ¼W
R407	1	1	1	RN05274140	Resistor, 270kΩ ±5% ¼W
R408	1	1	1	RN05274140	Resistor, 270kΩ ±5% ¼W

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
R409	1	1	1	RN05184140	Resistor, 180kΩ ±5% ¼W
R410	1	1	1	RN05184140	Resistor, 180kΩ ±5% ¼W
R411	1	1	1	RN05274140	Resistor, 270kΩ ±5% ¼W
R412	1	1	1	RN05274140	Resistor, 270kΩ ±5% ¼W
R413	1	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
R414	1	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
R415	1	1	1	RT05681140	Resistor, 680Ω ±5% ¼W
R416	1	1	1	RT05681140	Resistor, 680Ω ±5% ¼W
R417	1	1	1	RT05473140	Resistor, 47kΩ ±5% ¼W
R418	1	1	1	RT05473140	Resistor, 47kΩ ±5% ¼W
R419	1	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
R420	1	1	1	RT05223140	Resistor, 22kΩ ±5% ¼W
R421	1	1	1	RT05221140	Resistor, 220Ω ±5% ¼W
R422	1	1	1	RT05184140	Resistor, 180kΩ ±5% ¼W
C401	1	1	1	EV33502560	Electrolytic Cap., 3.3μF 25V
C402	1	1	1	EV33502560	Electrolytic Cap., 3.3μF 25V
C403	1	1	1	DD16101010	Ceramic Cap., 100PF ±10%
C404	1	1	1	DD16101010	Ceramic Cap., 100PF ±10%
C405	1	1	1	EA10701090	Electrolytic Cap., 100μF 15V
C406	1	1	1	EA10701090	Electrolytic Cap., 100μF 15V
C407	1	1	1	DK17102010	Ceramic Cap., 0.001μF ±20%
C408	1	1	1	DK17102010	Ceramic Cap., 0.001μF ±20%
C409	1	1	1	DF15123010	Film Cap., 0.012μF ±5%
C410	1	1	1	DF15123010	Film Cap., 0.012μF ±5%
C411	1	1	1	DF15332010	Film Cap., 0.0033μF ±5%
C412	1	1	1	DF15332010	Film Cap., 0.0033μF ±5%
C413	1	1	1	EA10505090	Electrolytic Cap., 1μF 50V
C415	1	1	1	EE10505050	Electrolytic Cap., 1μF 50V
C416	1	1	1	EE10505050	Electrolytic Cap., 1μF 50V
C417	1	1	1	EA10703590	Electrolytic Cap., 100μF 35V
H401	1	1	1	HC10011050	IC, TA7129P
H407	1	1	1	HC10011050	IC, TA7129P
J401	8	8	8	YP10001130	Plug
J408					
1602	1	1	1	2956005010	Clamper
1603	2	2	2	2874118013	Spacer
1604	2	2	2	51100312A9	B.H.M. Screw, B3 x 12
1605	2	2	2	54040302A0	Spring Washer
1608	1	1	1	3917118012	Spacer
1610	4	4	4	51380306P0	P.H. Tapped Screw, P3 x 6
1802	1	1	1	3899267012	Heatsink
1805	2	2	2	2956160040	Bracket
1806	4	4	4	51380306P0	P.H. Tapped Screw, P3 x 6
P700	1	1	1	YD29561010	P700 MAIN AMP. BOARD
	1	1	1	ZZ22211010	P.W. Board Assembly
P708	8	8	8	2933118020	Spacer
R701	1	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W
R702	1	1	1	RT05104140	Resistor, 100kΩ ±5% ¼W
R703	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
R704	1	1	1	RT05102140	Resistor, 1kΩ ±5% ¼W
R705	1	1	1	RT05154140	Resistor, 150kΩ ±5% ¼W
R706	1	1	1	RT05154140	Resistor, 150kΩ ±5% ¼W
R707	1	1	1	RT05393140	Resistor, 39kΩ ±5% ¼W
R708	1	1	1	RT05393140	Resistor, 39kΩ ±5% ¼W
R709	1	1	1	RT05154140	Resistor, 150kΩ ±5% ¼W
R710	1	1	1	RT05154140	Resistor, 150kΩ ±5% ¼W
R711	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
R712	1	1	1	RT05562140	Resistor, 5.6kΩ ±5% ¼W
R713	1	1	1	RT05391140	Resistor, 390Ω ±5% ¼W
R714	1	1	1	RT05391140	Resistor, 390Ω ±5% ¼W
R715	1	1	1	RT05101140	Resistor, 100Ω ±5% ¼W
R716	1	1	1	RT05101140	Resistor, 100Ω ±5% ¼W
R717	1	1	1	RT05272140	Resistor, 2.7kΩ ±5% ¼W
R718	1	1	1	RT05272140	Resistor, 2.7kΩ ±5% ¼W
R719	1	1	1	RT05391140	Resistor, 390Ω ±5% ¼W
R720	1	1	1	RT05391140	Resistor, 390Ω ±5% ¼W
R721	1	1	1	RT05682140	Resistor, 6.8kΩ ±5% ¼W
R722	1	1	1	RT05682140	Resistor, 6.8kΩ ±5% ¼W
R723	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
R724	1	1	1	RT05822140	Resistor, 8.2kΩ ±5% ¼W
R725	1	1	1	RT05362140	Resistor, 3.6kΩ ±5% ¼W
R726	1	1	1	RT05362140	Resistor, 3.6kΩ ±5% ¼W
R727	1	1	1	RA01020210	Trimming Resistor, 1kΩ (B)
R728	1	1	1	RA01020210	Trimming Resistor, 1kΩ (B)
R729	1	1	1	RT05100140	Resistor, 10Ω ±5% ¼W
R730	1	1	1	RT05100140	Resistor, 10Ω ±5% ¼W
R731	1	1	1	GF05471140	Resistor, 470Ω ±5% ¼W
R732	1	1	1	GF05471140	Resistor, 470Ω ±5% ¼W
R733	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R734	1	1	1	GF05100140	Resistor, 10Ω ±5% ¼W
R735	1	1	1	GX10222030	Resistor, 0.22Ω ±10% 3W
R736	1	1	1	GX10222030	Resistor, 0.22Ω ±10% 3W
R737	1	1	1	GX10222030	Resistor, 0.22Ω ±10% 3W
R738	1	1	1	GX10222030	Resistor, 0.22Ω ±5% 3W
R739	1	1	1	RC10100120	Resistor, 10Ω ±10% ½W
R740	1	1	1	RC10100120	Resistor, 10Ω ±10% ½W
R741	1	1	1	RC10022120	Resistor, 2.2Ω ±10% ½W
R742	1	1	1	RC10022120	Resistor, 2.2Ω ±10% ½W
R743	1	1	1	RT05103140	Resistor, 10kΩ ±5% ¼W
R744	1	1	1	RT05103140	Resistor, 10kΩ ±5% ¼W
R745	1	1	1	RC10102120	Resistor, 1kΩ ±10% ½W
R746	1	1	1	RC10102120	Resistor, 1kΩ ±10% ½W
C701	1	1	1	EV10502560	Electrolytic Cap., 1μF 25V
C702	1	1	1	EV10502560	Electrolytic Cap., 1μF 25V
C703	1	1	1	EA47605090	Electrolytic Cap., 47μF 50V
C704	1	1	1	EA47605090	Electrolytic Cap., 47μF 50V
C705	1	1	1	EE10703550	Electrolytic Cap., 100μF 35V
C706	1	1	1	EE10703550	Electrolytic Cap., 100μF 35V
C707	1	1	1	EA10703590	Electrolytic Cap., 100μF 35V
C708	1	1	1	EA10703590	Electrolytic Cap., 100μF 35V
C709	1	1	1	EA10701090	Electrolytic Cap., 100μF 10V
C710	1	1	1	EA10701090	Electrolytic Cap., 100μF 10V
C711	1	1	1	DD16100010	Ceramic Cap., 10pF ±10%
C712	1	1	1	DD16100010	Ceramic Cap., 10pF ±10%
C713	1	1	1	DD16500010	Ceramic Cap., 50pF ±10%
C714	1	1	1	DD16500010	Ceramic Cap., 50pF ±10%
C715	1	1	1	DD16151010	Ceramic Cap., 150pF ±10%
C716	1	1	1	DD16151010	Ceramic Cap., 150pF ±10%
C717	1	1	1	DD16101010	Ceramic Cap., 100pF ±10%
C718	1	1	1	DD16101010	Ceramic Cap., 100pF ±10%
H715					
H718	1	1	1	HD20005010	Diode W06B

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
C719	1	1	1	DF16104050	Ceramic Cap., 0.1 μ F \pm 10%
C720	1	1	1	DF16104050	Ceramic Cap., 0.1 μ F \pm 10%
C721	1	1	1	EB33803550	Electrolytic Cap., 3300 μ F 35V
C722	1	1	1	EB33803550	Electrolytic Cap., 3300 μ F 35V
C723	1	1	1	EA10505090	Electrolytic Cap., 1 μ F 50V
C724	1	1	1	EA10505090	Electrolytic Cap., 1 μ F 50V
L701	1	1	1	LC22720010	Choke Coil, 2.7 μ H \pm 20%
L702	1	1	1	LC22720010	Choke Coil, 2.7 μ H \pm 20%
M701	1	1	1	IN10060350	Lamp, 6V Lamp
M702	1	1	1	IN10060350	Lamp, 6V Lamp
J701					
J709	9	9	9	YP10001130	Plug
R747	1	1	1	RC00000120	Resistor, 0 Ω
R748	1	1	1	RC00000120	Resistor, 0 Ω
R749	1	1	1	RC00000120	Resistor, 0 Ω
R750	1	1	1	RC00000120	Resistor, 0 Ω
R751	1	1	1	RC00000120	Resistor, 0 Ω
R752	1	1	1	RC00000120	Resistor, 0 Ω
H701	1	1	1	HT105641K0	Transistor, 2SA564 A
H702	1	1	1	HT105641K0	Transistor, 2SA564 A
H703	1	1	1	HT313842C0	Transistor, 2SC1384 R or S
H704	1	1	1	HT313842C0	Transistor, 2SC1384 R or S
H705	1	1	1	HT308281D0	Transistor, 2SC828 S
H706	1	1	1	HT308281D0	Transistor, 2SC828 S
H707	1	1	1	HT313842B0	Transistor, 2SC1384 Q or R
H708	1	1	1	HT313842B0	Transistor, 2SC1384 Q or R
H709	1	1	1	HT106842B0	Transistor, 2SA684 Q or R
H710	1	1	1	HT106842B0	Transistor, 2SA684 Q or R
H711	1	1	1	HT403131D0	Transistor, 2SD313 D or E
H712	1	1	1	HT403131D0	Transistor, 2SD313 D or E
H713	1	1	1	HT205071D0	Transistor, 2SB507 D or E
H714	1	1	1	HT205071D0	Transistor, 2SB507 D or E
2221	1	1	1	2956160020	Bracket
2222	1	1	1	2956160030	Bracket
2224	4	4	4	51100312S9	B.H.M. Screw, B3 x 12
P800 POWER SUPPLY BOARD					
P800	1	1	1	YD29561030	P.W. Board
	1	1	1	ZZ29561030	P.W. Board Assembly
P809	10	10	10	2933118010	Spacer
P808	12	12	12	2933118020	Spacer
R801	1	1	1	GJ05331030	Resistor, 330 Ω \pm 5% 3W
R802	1	1	1	GJ05221020	Resistor, 220 Ω \pm 5% 2W
R803	1	1	1	GF05560120	Resistor, 56 Ω \pm 5% 1/2W
R804	1	1	1	RT05183140	Resistor, 18k Ω \pm 5% 1/4W
R805	1	1	1	RT05104140	Resistor, 100k Ω \pm 5% 1/4W
R806	1	1	1	GF05100120	Resistor, 10 Ω \pm 5% 1/2W
R807	1	1	1	GF05330120	Resistor, 33 Ω \pm 5% 1/2W
C801	1	1	1	DK18103510	Ceramic Cap., 0.01 μ F \pm 20%
C802	1	1	1	DK18103510	Ceramic Cap., 0.01 μ F \pm 20%
C803	1	1	1	EB47805510	Electrolytic Cap., 4700 μ F 55V
C804	1	1	1	EA33705090	Electrolytic Cap., 330 μ F 50V
C805	1	1	1	EA33703590	Electrolytic Cap., 330 μ F 35V
C806	1	1	1	EA22701690	Electrolytic Cap., 220 μ F 16V
C807	1	1	1	EA22705090	Electrolytic Cap., 220 μ F 50V

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
C808	1	1	1	EA10705090	Electrolytic Cap., 100 μ F 50V
C809	1	1	1	DK18403010	Ceramic Cap., 0.04 μ F \pm 20%
C810	1	1	1	EA47701690	Electrolytic Cap., 470 μ F 16V
H801	1	1	1	HT314072B0	Transistor, 2SC1407 Q or R
H802	1	1	1	HD20009010	Diode, U05B
H803	1	1	1	HD20009010	Diode, U05B
H804	1	1	1	HD20009010	Diode, U05B
H805	1	1	1	HD20009010	Diode, U05B
H806	1	1	1	HD20005010	Diode, W06B
H807	1	1	1	HD20005010	Diode, W06B
H808	1	1	1	HD20005010	Diode, W06B
H809	1	1	1	HD30027090	Diode, WZ140
J801					
J815	15	15	15	YP10001130	Plug
2502	1	1	1	2915160504	Bracket, K
2509	2	2	2	51100306A9	B.H.M. Screw, B3 x 6
2513	1	1	1	2818160032	Bracket
2514	1	1	1	2818160042	Bracket
2515	4	4	4	51100405A9	B.H.M. Screw, B4 x 5
2519	4	4	4	51100306A9	B.H.M. Screw, B3 x 6
2520	2	2	2	51100306A9	B.H.M. Screw, B3 x 6
2525	2	2	2	51100306A9	B.H.M. Screw, B3 x 6
2526	1			2956120010	Insulator
2530	2	2	2	51470306A9	B.H.M. Screw, B3 x 6
2532	2	2	2	2886120020	Insulator
2533	2	2	2	2916120012	Insulator
2602	2	2	2	51570306B0	P.H. Tapped Screw, P3 x 6
2603	2	2	2	54050300R0	T.L. Washer, OR
2607	1	1	1	2577106020	Bearing
2608	1	1	1	1415118010	Spacer
2609	2	2	2	51040306A9	F.H.M. Screw, F3 x 6
2611	2	2	2	51570306B0	P.H. Tapped Screw, P3 x 6
2613	1	1	1	2956262520	Pulley, K
2617	2	2	2	51100305A9	B.H.M. Screw, B3 x 5
2621	1	1	1	2819120050	Insulator
2623	1	1	1	2853269010	Protector
2624	2	2	2	51570305B0	P.H. Tapped Screw, P3 x 5
2626	1	1	1	2871053020	Cover
2628	1	1	1	2871051020	Guide
2630	2	2	2	51042608A0	F.H.M. Screw, F2.6 x 8
2632	2	2	2	2927055020	Collar
PZ01 DIAL LAMP BOARD					
PZ01	1	1	1	YD28860160	P.W. Board
	1	1	1	ZZ28891160	P.W. Board Assembly
MZ01					
JZ01	5	5	5	IN10080070	Lamp, 8V 200 mA
JZ10	10	10	10	YJ08000170	Socket
JZ11					
JZ14	4	4	4	YP10001130	Plug
3302	1	1	1	2871274110	Reflector

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
3304	1	1	1	2871271010	Holder
3305	2	2	2	51570306B0	P.H. Tapped Screw, P3 x 6
3307	2	2	2	51480306A9	B.H.M. Screw F, B3 x 6
3403	1	1	1	1382005030	Clamper
3503	1	1	1	2853106500	Bearing, K
3508	1	1	1	51640410D9	Set Screw C.P.
3509	1	1	1	54040402N0	Spring Washer
3510	1	1	1	53110403E9	Hexagon Nut
R007	1	1	1	RX05040020	Variable Resistor, Balance
PT01 MONITOR SWITCH BOARD					
PT01	1	1	1	YD29561050	P.W. Board
	1	1	1	ZZ29561050	P.W. Board Assembly
RT01	1	1	1	RT05153140	Resistor, 15k Ω \pm 5% $\frac{1}{4}$ W
RT02	1	1	1	RT05153140	Resistor, 15k Ω \pm 5% $\frac{1}{4}$ W
RT03	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
RT04	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
RT05	1	1	1	RC00000120	Resistor, 0 Ω
RT06	1	1	1	RC00000120	Resistor, 0 Ω
CT01	1	1	1	DF16273050	Film Cap., 0.027 μ F
CT02	1	1	1	DF16273050	Film Cap., 0.027 μ F
CT03	1	1	1	DD16121010	Ceramic Cap., 120pF
CT04	1	1	1	DD16121010	Ceramic Cap., 120pF
JT01	1	1	1	YP10001130	Plug
JT11	1	1	1	SP02020080	Push Switch
ST01	1	1	1		
PH01 MUTING & FILTER BOARD					
PH01	1	1	1	YD29561060	P.W. Board
	1	1	1	ZZ29561060	P.W. Board Assembly
RH01	1	1	1	RT05472140	Resistor, 47k Ω \pm 5% $\frac{1}{4}$ W
RH02	1	1	1	RT05472140	Resistor, 47k Ω \pm 5% $\frac{1}{4}$ W
RH03	1	1	1	RT05225140	Resistor, 2.2M Ω \pm 5% $\frac{1}{4}$ W
RH04	1	1	1	RT05225140	Resistor, 2.2M Ω \pm 5% $\frac{1}{4}$ W
CH01	1	1	1	DF16682050	Film Cap., 0.0068 μ F
CH02	1	1	1	DF16682050	Film Cap., 0.0068 μ F
SH01	1	1	1	SP02020080	Push Switch
JH01	1	1	1	YP10001130	Plug
JH07	1	1	1	SP02010150	Push Switch, Power
S003	1	1	1	BF10400040	Printed Comp., 0.1 μ F
G001	1	1	1	DF17473510	Film Cap., 0.047 μ F
C005	1	1	1	DF17473590	Film Cap., 0.047 μ F
3918	1	1	1	2915160050	Bracket
3921	2	2	2	51060306A9	P.H.M. Screw, P3 x 6
3925	1	1	1	2882109010	Shield
J007	1	1	1	YJ01000980	Socket, Headphone
R002	1	1	1	GF05151120	Resistor, 150 Ω \pm 5% $\frac{1}{4}$ W
R003	1	1	1	GF05151120	Resistor, 150 Ω \pm 5% $\frac{1}{4}$ W
4112	1	1	1	2915160060	Bracket

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
R006	1	1	1	RM02540220	Variable Resistor, Master Vol.
S001	1	1	1	SR10050110	Rotary Switch, Selector
R001	1	1	1	GF05102120	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
S002	1	1	1	SR02040070	Rotary Switch, Speaker
R004	1	1	1	GJ05331010	Resistor, 330 Ω \pm 5% $\frac{1}{4}$ W
R005	1	1	1	GJ05331010	Resistor, 330 Ω \pm 5% $\frac{1}{4}$ W
PE01 TONE AMP. BOARD					
PE01	1	1	1	YD29561020	P.W. Board
	1	1	1	ZZ29561020	P.W. Board Assembly
PE08	2	2	2	2933118020	Spacer
RE01	1	1	1	RT05472140	Resistor, 4.7k Ω \pm 5% $\frac{1}{4}$ W
RE02	1	1	1	RT05472140	Resistor, 4.7k Ω \pm 5% $\frac{1}{4}$ W
RE03	1	1	1	RT05474140	Resistor, 470k Ω \pm 5% $\frac{1}{4}$ W
RE04	1	1	1	RT05474140	Resistor, 470k Ω \pm 5% $\frac{1}{4}$ W
RE05	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE06	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE07	1	1	1	RT05223140	Resistor, 22k Ω \pm 5% $\frac{1}{4}$ W
RE08	1	1	1	RT05222140	Resistor, 2.2k Ω \pm 5% $\frac{1}{4}$ W
RE09	1	1	1	RN05105140	Resistor, 1M Ω \pm 5% $\frac{1}{4}$ W
RE10	1	1	1	RN05105140	Resistor, 1M Ω \pm 5% $\frac{1}{4}$ W
RE11	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
RE12	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
RE13	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE14	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE15	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE16	1	1	1	RT05752140	Resistor, 7.5k Ω \pm 5% $\frac{1}{4}$ W
RE17	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE18	1	1	1	RT05102140	Resistor, 1k Ω \pm 5% $\frac{1}{4}$ W
RE19	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
RE20	1	1	1	RT05224140	Resistor, 220k Ω \pm 5% $\frac{1}{4}$ W
RE21	1	1	1	RT05223140	Resistor, 22k Ω \pm 5% $\frac{1}{4}$ W
RE22	1	1	1	RT05223140	Resistor, 22k Ω \pm 5% $\frac{1}{4}$ W
RE23	1	1	1	RT05203140	Resistor, 20k Ω \pm 5% $\frac{1}{4}$ W
RE24	1	1	1	RT05203140	Resistor, 20k Ω \pm 5% $\frac{1}{4}$ W
RE25	1	1	1	RT05273140	Resistor, 27k Ω \pm 5% $\frac{1}{4}$ W
RE26	1	1	1	RT05273140	Resistor, 27k Ω \pm 5% $\frac{1}{4}$ W
RE27	1	1	1	RT05682140	Resistor, 6.8k Ω \pm 5% $\frac{1}{4}$ W
RE28	1	1	1	RT05682140	Resistor, 6.8k Ω \pm 5% $\frac{1}{4}$ W
RE29	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
RE30	1	1	1	RT05822140	Resistor, 8.2k Ω \pm 5% $\frac{1}{4}$ W
RE31	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
RE32	1	1	1	RT05123140	Resistor, 12k Ω \pm 5% $\frac{1}{4}$ W
RE33	1	1	1	RM01040050	Variable Resistor, 100k Ω (B)
RE34	1	1	1	RM01040050	Variable Resistor, 100k Ω (B)
RE35	1	1	1	RT05225140	Resistor, 2.2M Ω \pm 5% $\frac{1}{4}$ W
RE36	1	1	1	RT05225140	Resistor, 2.2M Ω \pm 5% $\frac{1}{4}$ W
RE37	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
RE38	1	1	1	RT05683140	Resistor, 68k Ω \pm 5% $\frac{1}{4}$ W
RE39	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
RE40	1	1	1	RT05103140	Resistor, 10k Ω \pm 5% $\frac{1}{4}$ W
RE41	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
RE42	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W
RE43	1	1	1	RT05104140	Resistor, 100k Ω \pm 5% $\frac{1}{4}$ W
RE44	1	1	1	RT05104140	Resistor, 100k Ω \pm 5% $\frac{1}{4}$ W
RE45	1	1	1	RT05101140	Resistor, 100 Ω \pm 5% $\frac{1}{4}$ W

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
CE01	1	1	1	DF17224050	Film Cap., 0.22 μ F \pm 20% 50V
CE02	1	1	1	DF17224050	Film Cap., 0.22 μ F \pm 20% 50V
CE03	1	1	1	EE10505010	Electrolytic Cap., 1 μ F \pm 20% 50V
CE04	1	1	1	EE10505010	Electrolytic Cap., 1 μ F \pm 20% 50V
CE05	1	1	1	DF16223050	Film Cap., 0.022 μ F \pm 10% 50V
CE06	1	1	1	DF16223050	Film Cap., 0.022 μ F \pm 10% 50V
CE07	1	1	1	DF16223050	Film Cap., 0.022 μ F \pm 10% 50V
CE08	1	1	1	DF16223050	Film Cap., 0.022 μ F \pm 10% 50V
CE09	1	1	1	DF16102050	Film Cap., 0.001 μ F \pm 10% 50V
CE10	1	1	1	DF16102050	Film Cap., 0.001 μ F \pm 10% 50V
CE11	1	1	1	EE10505010	Electrolytic Cap., 1 μ F \pm 20% 50V
CE12	1	1	1	EE10505010	Electrolytic Cap., 1 μ F \pm 20% 50V
CE13	1	1	1	EE47502510	Electrolytic Cap., 4.7 μ F \pm 20% 25V
CE14	1	1	1	EE47502510	Electrolytic Cap., 4.7 μ F \pm 20% 25V
CE15	1	1	1	EQ47501610	Electrolytic Cap., 4.7 μ F \pm 30% 16V
CE16	1	1	1	EQ47501610	Electrolytic Cap., 4.7 μ F \pm 30% 16V
CE17	1	1	1	EA10705090	Electrolytic Cap., 100 μ F \pm 25% 50V
HE01	1	1	1	HT313282A0	Transistor, 2SC1328 S or T
HE02	1	1	1	HT313282A0	Transistor, 2SC1328 S or T
HE03	1	1	1	HT107223A0	Transistor, 2SA722 S, T, U
HE04	1	1	1	HT107223A0	Transistor, 2SA722 S, T, U
HE05	1	1	1	HT313281T0	Transistor, 2SC1328 T
HE06	1	1	1	HT313281T0	Transistor, 2SC1328 T
JE01	10	10	10	YP10001130	Plug
JE10					
5002	1	1	1	62030039W0	Lug
5102	1	1	1	2915160040	Bracket
5106	1	1	1	2912259010	Bushing
M001	1	1	1	IN10080340	Lamp, Stereo
M004	1	1	1	IM11042260	Meter, Tuning
C004	1	1	1	EA47601090	Electrolytic Cap., 47 μ F 10V
5306	1	1	1	2886107010	Sheet
5402	1	1	1	2854274013	Reflector
5405	1	1	1	2956262502	Pulley, K
5411	1	1	1	51480308A9	B.H.M. Screw, B3 x 8
5413	1	1	1	2854271010	Holder
5415	1	1	1	51570305B0	P.H. Tapped Screw, P3 x 5
M003	1	1	1	IN10080070	Lamp, Meter
JO10	1	1	1	YJ08000190	Socket
5502	1	1	1	2221160210	Bracket
5504				2221160220	Bracket
5515		2		51060316A9	P.H.M. Screw, P3 x 16
5516		2		53110303A9	Hexagon Nut
5520	1	1	1	54050400R0	T.L. Washer, OR
5524	4	4	4	51100308S9	B.H.M. Screw, B3 x 8
5525	4	4	4	53110303A9	Hexagon Nut
5529	6	6	6	51100308S9	B.H.M. Screw, B3 x 8
5530	6	6	6	53110303A9	Hexagon Nut
5533	2	2	2	51100308S9	B.H.M. Screw, B3 x 8
5534	1	1	1	53110303E9	Hexagon Nut
5602	3	3	3	51100306S9	B.H.M. Screw, B3 x 6
5604	1	1		1455259030	Bushing
5605			1	1455259070	Bushing

REF. DESIG.	Q'TY			PART NO.	DESCRIPTION
	U	C	E		
5619			1	62030039W0	Lug
J002	1	1	1	YL01020030	Terminal, 2P
J004	1	1	1	YT02040080	Terminal, Aux, Phono
J006	1	1	1	YT01010050	Terminal, Ground
J008	1	1	1	YT03040060	Terminal, Spk
J009	1	1	1	YT03040060	Terminal, Spk
J011	1	1		YJ04000560	Jack, AC Outlet
J012	1	1		YJ08000120	Socket, Fuse Holder
J012			1	YJ08000220	Socket, Fuse Holder
F001	1	1		FS10200060	Fuse
F001			1	FS10160020	Fuse
F002		1		FS20200910	Fuse
W001	1	1		YC02400220	AC Cord
6005	1	1	1	2819271130	Holder
6006	1	1	1	2578160522	Bracket, K
6011	2	2	2	51280312U0	B.H. Tapped Screw B, B3 x 12
6016	2	2	2	51280312U0	B.H. Tapped Screw B, B3 x 12
L002	1	1	1	LF11200480	Ant. Coil, AM
L004	1	1	1	LC13320020	Choke Coil, 3.3 μ H
6102			1	3188271020	Holder
6202	1	1	1	62030039W0	Lug
J001	1	1	1	YT01040150	Terminal, Ant.
L001	1	1	1	LC11540040	Choke Coil, 150 μ H
6302	1	1	1	62030039W0	Lug
J003	1	1	1	YT02010090	Terminal, Quad. Out
J005	1	1	1	YT02040080	Terminal, Tape Monitor
6502	1	1	1	62041760W0	Lug
6504	1	1	1	62030039W0	Lug
C001	1	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%
C002	1	1	1	DK17103010	Ceramic Cap., 0.01 μ F \pm 20%
6521	1	1		62030039W0	Lug
R008	1	1		RC10225120	Resistor, 2.2M Ω \pm 10% $\frac{1}{2}$ W
7002	1	1	1	2221302010	Dial
7202	2	2	2	1382005030	Clamper
7219	1	1	1	2871005010	Clamper
PR01			1	YD29601030	PR01 FUSE BOARD
			1	ZZ29603030	P.W. Board
JR01			6	YJ08000200	Jack
JR06					
JR07			6	YP10001130	Plug
JR12					
JO13			1	BY03110010	Selector
7606	1	1	1	2956160070	Bracket

U: For U.S.A.
C: For Canada
E: For Europe

REF. DESIG.	QTY			PART NO.	DESCRIPTION
	U	C	E		
7608	1	1	1	51062606B0	P.H.M. Screw, P2.6 x 6
7902	4	4	4	2932057010	Lug
7903	4	4	4	51440410S9	P.H.M. Screw S, P4 x 10
7907	1	1	1	2886861010	Label, On Power Transformer
7908	1	1	1	9510221010	Label, Fuse Caution
7909	1	1	1	9510611020	Label, 2A 250V
7912	6	6	6	51280306U0	B.H. Tapped Screw B, B3 x 6
7914	2	2	2	51100308S9	B.H. Tapped Screw B, B3 x 6
7916	10	10	10	51570306B0	P.H. Tapped Screw, P3 x 6
7929	1	1	1	2956105507	Chassis, K
7932			1	2854160030	Bracket
7933		2		51570306B0	P.H. Tapped Screw, P3 x 6
8002	1	1	1	2889259010	Bushing
8006	4	4	4	51570306B0	P.H. Tapped Screw, P3 x 6
8009	2	2	2	2956160052	Bracket
8010	4	4	4	54020401A0	Fiat Washer, P
8011	4	4	4	54040402A0	Spring Washer
8012	4	4	4	53110403A9	Hexagon Nut
8016	6	6	6	51280306U0	B.H. Tapped Screw B, B3 x 6
8017	1	1	1	59030810P0	Washer
8020	4	4	4	51570306S0	P.H. Tapped Screw, P3 x 6
8021	2	2	2	51570306S0	P.H. Tapped Screw, P3 x 6
8022	2	2	2	51100306S9	B.H.M. Screw, B3 x 6
8024	1	1	1	51570306B0	P.H. Tapped Screw, P3 x 6
8026	1	1	1	2927160050	Bracket
8027	1	1	1	51570306B0	P.H. Tapped Screw, P3 x 6
8028	1	1	1	2908259010	Bushing
8033	2	2	2	2956005022	Clamper
8034	2	2	2	51570306B0	P.H. Tapped Screw, P3 x 6
8102	1	1	1	2956262513	Pulley, K
8106	2	2	2	51570306B0	P.H. Tapped Screw, P3 x 6
8110	4	4	4	2886005060	Clamper
8111	4	4	4	2886005050	Clamper
8114	1	1	1	2910123010	Contacto
8115	1	1	1	51570306B0	P.H. Tapped Screw, P3 x 6
8116	1	1	1	54050300R0	T.L. Washer, OR
J016		1		YL01020030	Terminal
W001		1		YC01900030	AC Cord
L003	1	1		TS18603040	Power Transformer
L003			1	TS18603030	power Transformer
8130	6	6	6	51570306B0	P.H. Tapped Screw, P3 x 6
8132	2	2	2	51570306B0	P.H. Tapped Screw, P3 x 6
8134	1	1	1	51570306B0	P.H. Tapped Screw, P3 x 6
FR01		1		FS10400060	Fuse, 4A 20 mm
FR02		1		FS10100070	Fuse, 1A 20 mm
FR03		1		FS10100070	Fuse, 1A 20 mm
8307	4	4	4	51480406S9	B.H.M. Screw F, P4 x 6
8309	4	4	4	52017039J0	Bolt
8311	1	1	1	2927055010	Collar
8316	11	11	11	51100410S9	B.H.M. Screw, B4 x 10
8404	1	1	1	2221154112	Knob, Slide Vol.
8405	4	4	4	2221154122	Knob, Push Sw
8406	1	1	1	2904154140	Knob, Power Sw
8408	5	5	5	2221154133	Knob,
8419	1	1	1	2850112020	Shaft

REF. DESIG.	QTY			PART NO.	DESCRIPTION
	U	C	E		
8420	1	1	1	54040402N0	Spring Washer
8428	1	1	1	2915269012	Protector
8429	2	2	2	51570305B0	P.H. Tapped Screw, P3 x 5
8433	1	1	1	56332040G0	Eyelet
8502	1	1	1	2221265010	Indicator
8503		1		2221265020	Indicator
8504		1		2221265030	Indicator
8511	2	2	2	51100305S9	B.H.M. Screw, B3 x 5
8512	1	1	1	2578861010	Label, UL Caution
8513	1	1	1	2932861010	Label, Do not remove
8515	1	1	1	2506265060	Indicator, Do not use as
8519		1		9510911010	Label, LL No.
8521	1			9510911020	Label, UL Factory
8523	1			2818861010	Label, FTC
8524	1			9511101020	Label, UL
8602	1			2221851010	Instructions, Set
8603		1	1	2221851310	Instructions, Set
8607	1			2886851100	Instructions, Flysheet
8609	1	1		2818851140	Instructions, Packing
8610		1		2818854040	Guarantee Card
8611		1	1	2818851020	Instructions, Important
8612		1	1	9630000180	Guarantee Card
8613	1	1	1	2221856010	Schematic
8615		1		9650000050	Service S. Card
8617	1			2818851040	Instructions, Packing
8623	1			2818854022	Guarantee Card
8624	1			2577854012	Guarantee Card
8625	1			2577851020	Instructions, Important
8626	1			2577813010	Envelope
8627			1	2818813010	Envelope
8629		1		2918813012	Envelope
8702	1	1	1	2221801010	Packing Case, Inner
8703	1	1	1	2221801020	Packing Case, Outer
8708	1	1	1	3448803013	Cushion
8709	1	1	1	3448803013	Cushion
8711	1	1	1	2918107150	Sheet
8712	1	1	1	9014538350	Polyethylene Bag, Set
8714	1	1	1	9013025010	Polyethylene Bag, Printed Matter
8715	1	1	1	9013025010	Polyethylene Bag, Accessories
8716		2		9510901020	Label
8717	1	1	1	1029804010	Sleeve
8718		1		9560000042	Hang Tag
8719	1	1	1	2731821010	Silicagel
8720	1	1	1	2819056010	Buffer
8722	4			9522815010	Serial No. Card
8723		4		9523015120	Serial No. Card
8724			4	9523015110	Serial No. Card
8732	1	1	1	ZA02000070	Ext. Antenna

16. TECHNICAL SPECIFICATIONS

Amplifier Section

RATED POWER OUTPUT, MINIMUM CONTINUOUS AVERAGE POWER	16 WATTS
PER CHANNEL, BOTH CHANNELS DRIVEN	
POWER BAND	20 Hz to 20 kHz
TOTAL HARMONIC DISTORTION	0.5%
LOAD IMPEDANCE	8 OHMS
Maximum Power Output, DIN 45500 (less than 1% THD, 10 min. test)	22 W
Power Bandwidth at 1% THD, DIN 45500	20 Hz ~ 20 kHz
I.M. Distortion (I.H.F. method, 60 Hz and 7 kHz mixed 4:1 at rated power output)	0.5%
Damping Factor	35

Preamplifier Section

Phono	
Input Overload at 1 kHz	100 mV
Equivalent Input Noise	2.5 μ V
Dynamic Range (Dynamic Range is the ratio of input overload to equivalent input noise)	92 dB
Input Sensitivity	2.2 mV
Input Impedance	47 kOhms
Frequency Response, RIAA 20 Hz to 20 kHz	± 1.0 dB
Signal-to-Noise Ratio (at rated output and 7.75 mV input)	74 dB
Signal-to-Noise Ratio, unweighted (DIN 45500)	58 dB
High Level (Aux and Tape)	
Input Sensitivity	150 mV
Input Impedance	100 kOhms
Frequency Response (includes power amp.)	20 Hz to 60 kHz ± 1.5 dB
Signal-to-Noise Ratio (ref. to rated output and 775 mV input)	84 dB
Output Levels	
Tape Out (ref. 7.75 mV at Phono inputs)	525 mV
Output Impedance	
Tape Out	600 Ohms

FM Tuner Section

Sensitivity	
IHF Usable	13.2 dBf (2.5 μ V)
IHF 50 dB Quieting (Mono)	19.2 dBf (5.0 μ V)
(Stereo)	39.2 dBf (50 μ V)
DIN Sensitivity	
(Mono, 26 dB S/N, 300 ohm input)	1.6 μ V
(Stereo, 46 dB S/N, 300 ohm input)	30 μ V
Quieting Slope (Mono)	
RF Input for 30 dB Quieting	12 dBf (2.2 μ V)
Quieting at:	
20 dBf (5.5 μ V)	50 dB
25 dBf (10 μ V)	55 dB
40 dBf (55 μ V)	63 dB
65 dBf (1000 μ V)	68 dB
Quieting Slope (Stereo)	
Quieting at:	
30 dBf (17 μ V)	40 dB
40 dBf (55 μ V)	50 dB
50 dBf (173 μ V)	55 dB
65 dBf (1000 μ V)	60 dB

Distortion (Mono)	
at 65 dBf (1000 μ V), 1000 Hz	0.4%
Hum and Noise	
at 65 dBf (1000 μ V)	
Mono	68 dB
Stereo	58 dB
Frequency Response	
30 Hz to 15 kHz	
Mono	± 2.0 dB
Stereo	± 2.0 dB
Capture Ratio	
at 45 dBf (100 μ V)	4.0 dB
at 65 dBf (1000 μ V)	3.0 dB
Alternate Channel Selectivity	50 dB
Spurious Response Rejection	75 dB
Image Response Rejection	50 dB
I.F. Rejection (Balanced)	70 dB
A.M. Suppression,	45 dB
Stereo Separation	
100 Hz	35 dB
1000 Hz	38 dB
10 kHz	30 dB
Subcarrier Rejection	55 dB

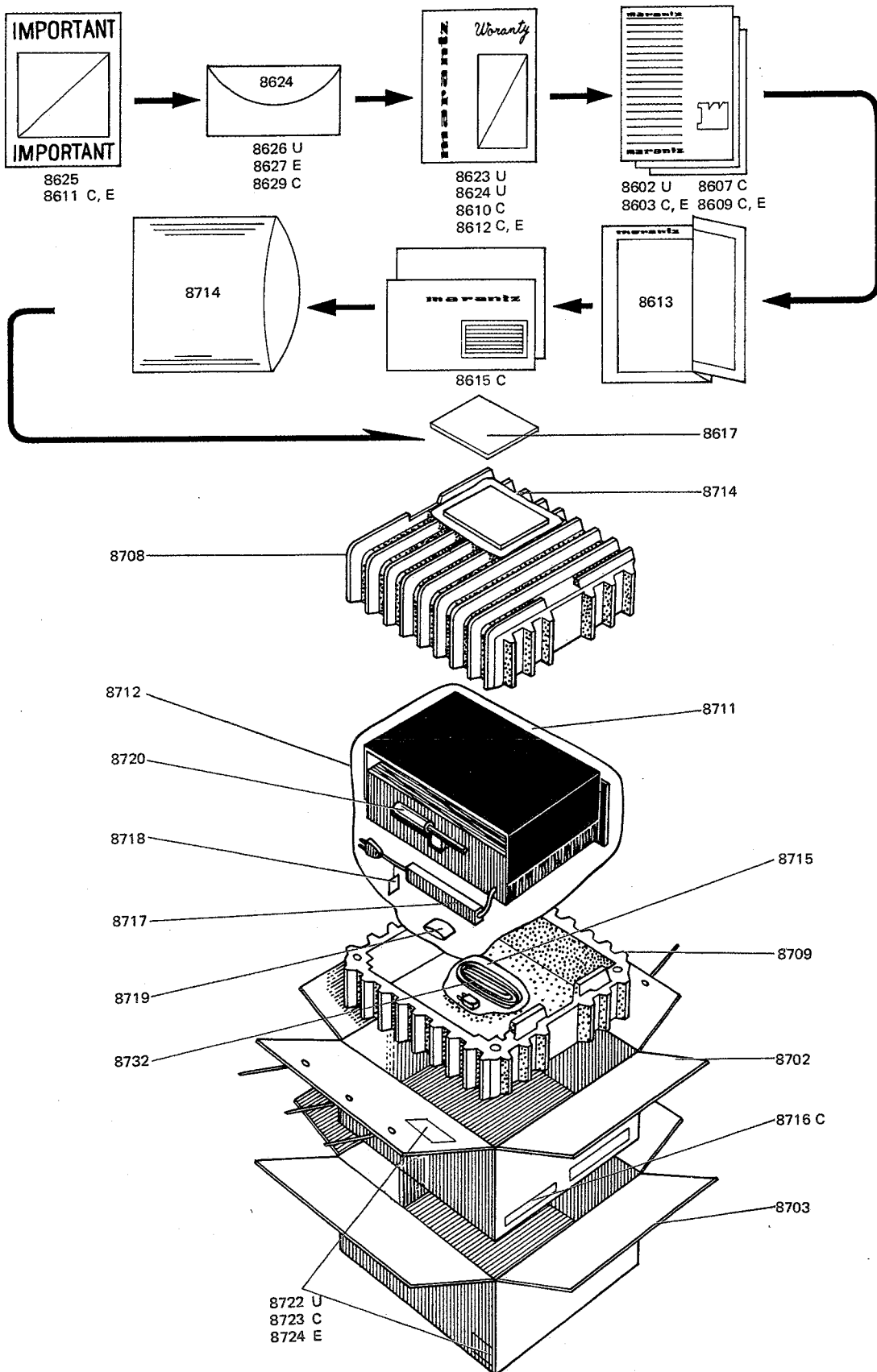
AM Tuner Section

IHF Usable Sensitivity	25 μ V
Distortion (THD), 30% Modulation	0.7%
Signal-to-Noise Ratio	49 dB
Frequency Response (± 3 dB)	40 Hz to 2.3 kHz
Alternate Channel Selectivity	40 dB
Image Rejection	37 dB
Spurious Response Rejection	40 dB
I.F. Rejection	35 dB

General

Power Requirements	120 V ~, 60 Hz
(E and N versions are featuring an external voltage selector for use on 110/120/240 V. Other versions can be converted by a qualified technician to operate on 110/120/240 V.)	
Power Consumption at rated output, both channels operating	95 Watts
Idling Power (Volume Control at zero)	28 Watts
Semiconductor Complement	
Integrated Circuits	4
Transistors	37
Diodes	16
Field Effect Transistors	1
Dimensions	
Panel Width	441.3 mm (17-3/8 inches)
Panel Height	136.5 mm (5-3/8 inches)
Depth	292.1 mm (11-1/2 inches)
Weight	
Unit alone	9.5 kg (20.90 lbs.)
Packed for shipment	12.2 kg (26.84 lbs.)

17. PACKING MATERIAL EXPLODED VIEW



U: For U.S.A.
C: For Canada
E: For Europe

SERVICE INFORMATION FOR EUROPEAN MODEL

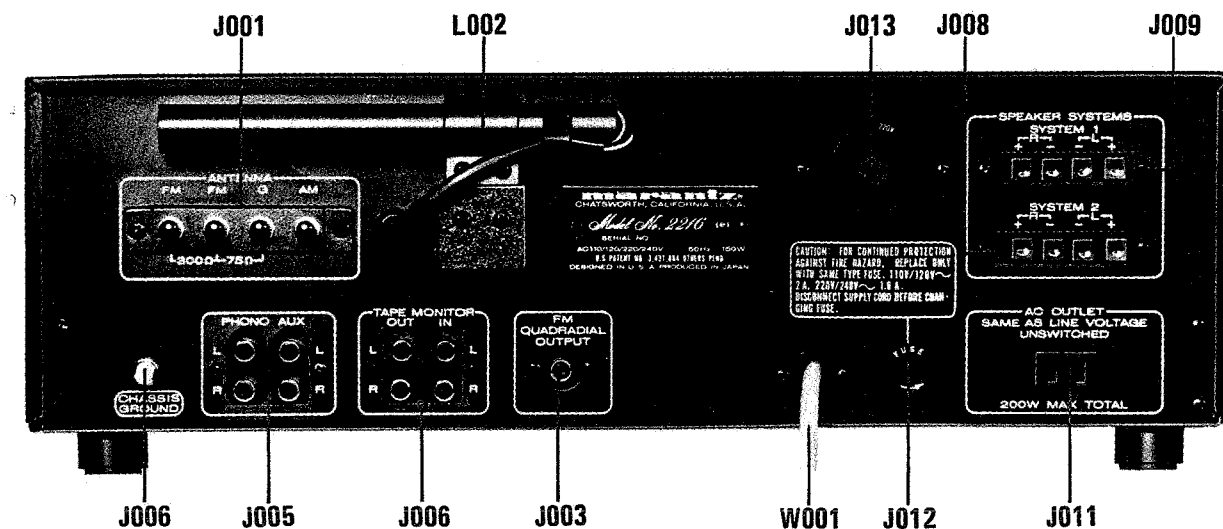
The information contained herein includes major component locations, voltage conversion and FTZ regulation. For the alignment procedures, test equipment and repairing hints refer to the original service manual.

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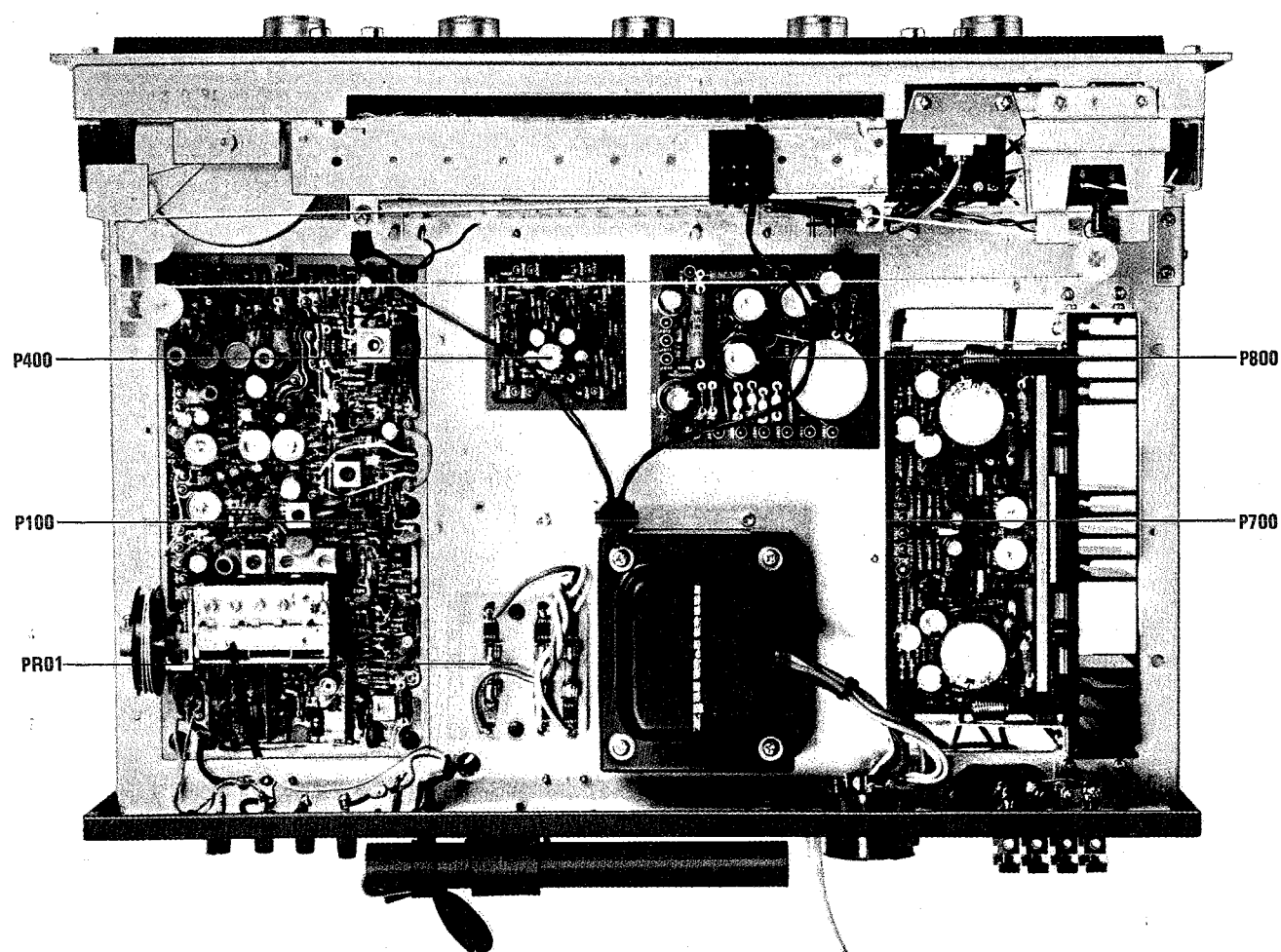
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1. MAJOR COMPONENT LOCATIONS

1.1 Rear Panel Adjustment and Component Locations



1.2 Main Chassis Component Locations (Top View)



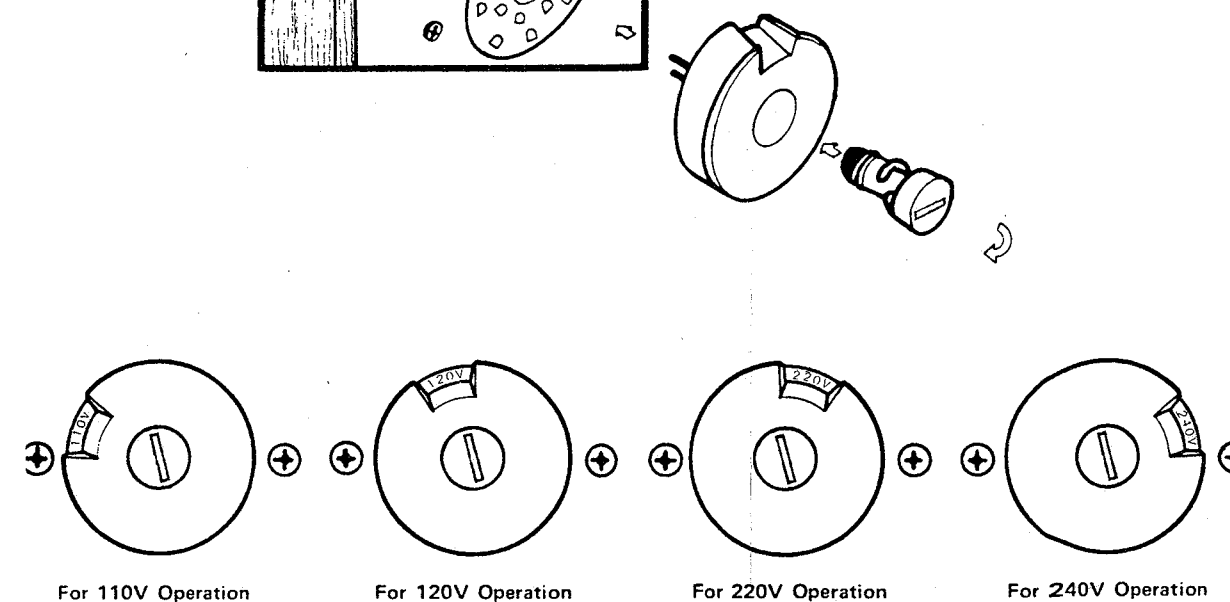
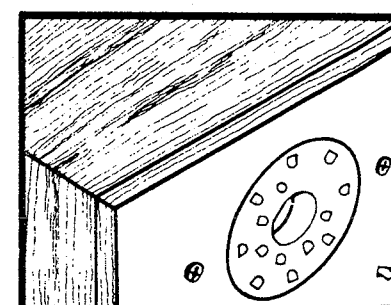
2. VOLTAGE CONVERSION

This Model is equipped with a universal power transformer to permit operation at 110, 120, 220 and 240 V AC 50/60 Hz.

To convert the unit to the required voltage, set the plug as illustrated so that you can adjust the voltage as required.

CAUTION: DISCONNECT POWER SUPPLY CORD FROM AC OUTLET BEFORE CONVERTING VOLTAGE.

2.1 Voltage Conversion Chart



3. FTZ REGULATION

Instruction for the use in the range other than specified in FTZ codes

Achtung für die Leute, die in dem Gebiet wohnen, wo die FTZ-Bestimmungen vorherrschend sind.

Sollte das Gerät auch für Frequenzen ausserhalb des in den FTZ-Bestimmungen angegebenen Bereiches empfangsbereit sein, bitten wir, den Bereich durch Nachstellen des Kernes in der Oszillatorschule (in der Abbildung mit „FTZ“ gekennzeichnet) so zu korrigieren, dass er den Bestimmungen entspricht.